

## PROJECT ADMINISTRATION DATA SHEET



ORIGINAL



REVISION NO. \_\_\_\_\_

Project No. A-3781

GTRI/OTX

DATE 3 / 13 / 84Project Director: W. C. Darley *GA*

SEC/XX/Lab

EDL/IED

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## RESTRICTIONS

See Attached N/A Supplemental Information Sheet for Additional Requirements.

Travel: Foreign travel must have prior approval — Contact OCA in each case. Domestic travel requires sponsor approval where total will exceed greater of \$500 or 125% of approved proposal budget category.

Equipment: Title vests with Sponsor; however, none proposed.

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SPONSORED PROJECT TERMINATION/CLOSEOUT SHEETDate 3/14/85Project No. A-3781~~XXXX~~ Lab EDLIncludes Subproject No.(s) N/AProject Director(s) W.C. DarleyGTRC ~~XXXX~~Sponsor Chamber of Commerce of Greater Augusta, Inc.Title An Analysis of Strengths and Weaknesses and Identification of Target Industries  
for Columbia, Richmond and Burke Counties, GeorgiaEffective Completion Date: 8/31/84 (Performance) 8/31/84 (Reports)

## Grant/Contract Closeout Actions Remaining:

- ☐ None
- ☒ Final Invoice or Final Fiscal Report
- ☐ Closing Documents
- ☐ Final Report of Inventions
- ☐ Govt. Property Inventory & Related Certificate
- ☐ Classified Material Certificate
- ☐ Other \_\_\_\_\_

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**PROPRIETARY**

**FINAL REPORT  
PROJECT NO. A-3781**

**TARGET INDUSTRY STUDY  
FOR  
BURKE, COLUMBIA, and RICHMOND COUNTIES, GEORGIA**

**By  
William C. Darley, Jr.  
David H. Poss, II**

**Prepared for  
GREATER AUGUSTA CHAMBER OF COMMERCE  
AUGUSTA, GEORGIA**

**Economic Development Laboratory  
Industrial Extension Division**

**August 1984**

**GEORGIA INSTITUTE OF TECHNOLOGY**

**A Unit of the University System of Georgia  
Engineering Experiment Station  
Atlanta, Georgia 30332**



1984



Project A-3781

TARGET INDUSTRY STUDY  
FOR  
BURKE, COLUMBIA, AND RICHMOND COUNTIES,  
GEORGIA

Prepared for  
Greater Augusta Chamber of Commerce  
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## ACKNOWLEDGMENTS

Many individuals and their affiliated businesses contributed time, experience, and knowledge to this study. All individuals contributing to the strengths and weaknesses analysis were interested in assisting the Greater Augusta Chamber of Commerce in its economic/industrial efforts. Their candid opinions and ideas should generate positive results in the form of new jobs for Burke, Columbia, and Richmond counties.

Because of the sensitivity and confidential nature of information provided during the study, the persons interviewed will not be identified. The responsibility for the use of the contributed information rests solely with the authors. Thirteen local manufacturers were visited, and 21 other local organizations made significant contributions to this study. Twenty-four professional developers participated by completing the Developers Questionnaire and relating their past experiences in working with local developers in the greater Augusta area.

The writers also wish to express appreciation to other individuals who contributed to the project. Basic research contributions were made by Holly Grell, Sara D. Marshall, and James T. Varnadoe.

Executive Vice President Charles H. Bellmann, members of the Economic/Industrial Committee of the Greater Augusta Chamber of Commerce, Randolph B. Cardoza, and all local governments of Burke, Columbia, and Richmond counties are to be commended for their efforts to work together and to take the initiative of establishing the program to market the area's assets to new industry. This program should ensure the creation of future job opportunities for the entire community.



TARGET INDUSTRY STUDY  
FOR  
BURKE, COLUMBIA, AND RICHMOND COUNTIES, GEORGIA

Executive Summary

INTRODUCTION

The recent recessionary conditions of the American economy, fewer industrial prospects visiting Georgia, and increased competition among communities in the state and throughout the Southeast and Nation are making it increasingly important for local communities to establish organizations and programs whose goal is to create new job opportunities. The Greater Augusta Chamber of Commerce, the local governments of Burke, Columbia, and Richmond counties, and the industrial development authorities are to be commended for their interest and support to promote and enhance economic/industrial development in their community.

An important function of the Economic/Industrial Development Committee and Executive Vice President of the Greater Augusta Chamber of Commerce is soliciting new industries that can help strengthen the existing industrial base of Burke, Columbia, and Richmond counties. For this effort to be successful, these new industries must properly blend with the socioeconomic resources, needs, and goals of the community.

To determine the best approach for increasing the area's industrial base, the following questions had to be addressed:

1. What are the major strengths and weaknesses which might attract or discourage new industry as well as aid or hinder the growth of existing businesses and industry in the community?
2. What types of industry and companies within each industrial classification should be recruited?

## APPROACH

To obtain answers to these questions, the Economic/Industrial Development Committee commissioned a research project with the Economic Development Laboratory of the Engineering Experiment Station at the Georgia Institute of Technology. The study had two principal objectives. The first involved an investigation of the "strengths and weaknesses" of Burke, Columbia, and Richmond counties. This analysis would help in assessing the assets of and liabilities to economic development in the three-county area and develop an objective overview. Second, a computer model would be used to identify target industries. The computer selection model and other analytical selection methods would generate a list of target industries and company names within each industry group that would be the best potential audience for the community's marketing campaign.

## ANALYSIS OF STRENGTHS AND WEAKNESSES

An important part of any community's industrial development program should be determining its strengths and weaknesses and how they relate to economic development. It was decided that the most realistic approach to determining the strengths and weaknesses would be to develop strategies using secondary and primary data sources. Secondary data sources were obtained from published and unpublished statistical information, and primary source information was obtained by direct contact with individuals at the local, state, and regional levels.

Carefully designed questionnaires were developed to garner the opinions and impressions of statewide development specialists and key leaders in Burke, Columbia, and Richmond counties. The questionnaires covered over twenty community economic factors.

The "community questionnaire" or "developers questionnaire," along with personal interviews, were used to obtain confidential information from 36 individuals who represented 10 different types of organizations, including 13 manufacturers. Also 24 area, statewide, and regional developers representing 16 different organizations were questioned. Because of the sensitivity and confidentiality



of their remarks, the persons participating in the study could not be identified. The developers selected for the study were knowledgeable about Burke, Columbia, and Richmond counties and had experience working with industrial prospects in the communities. It is very important for the reader of this report to realize that comments were obtained from several developers who were not aware of the Greater Augusta Chamber of Commerce's most recent economic development efforts involving its latest initiatives to recruit new industries into the area.

All participants in the study indicated their support of local development organizations and their efforts to expand the industrial base of Burke, Columbia, and Richmond counties by attracting new industry to the communities, if it is done cooperatively and in a well-planned manner. They also believed that the Chamber of Commerce and all local governments should continue to pursue a program to improve communication and to provide recognition and appreciation to existing industries. The existing industry appreciation program, instituted by the Chamber during this study, should prove well warranted. It is also important to develop and maintain close working relations and continual contact with statewide development organizations. Statewide developers were very complimentary about the Chamber's past and present communication efforts.

The principal community strengths as identified by both developers and local leaders include:

1. Excellent livability and quality of life, including favorable climate, good recreation, attractive housing, and excellent medical services.
2. Excellent post-secondary educational systems including superior vocational technical facility and training program.
3. Good business/industrial atmosphere and support of business community, including industrial support services.
4. Pro-business governments.
5. Very good tax base - favorable taxes.
6. Good labor climate with good supply of unskilled and semi-skilled, trainable labor.

7. Good overall industrial sites with developed utilities.
8. Competitively priced land and utilities.
9. Good highway transportation facilities with an interstate and reasonably close to Atlanta.
10. Superior industrial development program with strong professional sales team and excellent economic data documentation.
11. Good diversified industrial base.

For a comprehensive listing and discussion of these and other strengths, the reader should refer to the study.

The principal community weaknesses perceived by statewide developers include:

1. Lack of an authority controlled industrial park with developed utilities (Richmond County).
2. Lack of available industrial buildings.
3. Distance from north-south interstate highway.
4. Limitation of commercial air services.
5. Proximity to tax "give-aways" in South Carolina.
6. Heavy industry in area creates image of high wages.
7. Unstable political environment (Augusta/Richmond County).
8. Less than attractive look of downtown commercial area.
9. Apparent weakness in public education systems (Richmond and Burke counties).

Most community participants in the survey agreed with items 1, 2, 3, 7, and 9. In addition to these five weaknesses, most local industry representatives expressed concern about a general shortage of skilled operators/tradesmen in the area.

Other weaknesses cited by the community leaders may reflect their subjectiveness regarding community conditions. The study discusses these impressions. The Economic/Industrial Development Committee of the Greater Augusta Chamber of Commerce must evaluate the validity of these observations and determine how they can be properly addressed. Special attention needs to be given to those items directly and adversely affecting the total

effectiveness of the community's economic development goals and objectives.

Developers made the following recommendations for strengthening the community's efforts to attract new industry:

1. Develop a quality industrial park with utilities in Richmond County.
2. Consider the construction of speculative building(s).
3. Become more aggressive in promotional and marketing efforts.
4. Promote a positive image of area by:
  - a. Projecting a strong and stable political image
  - b. Continuing to work on improving downtown Augusta
5. Define and establish positive linkages between the Chamber's economic/industrial development efforts and the local medical facilities and Fort Gordon.
6. Publicize economic stability of area.
7. Support efforts to improve highway transportation for Augusta-Savannah corridor and to continue improving commercial air service.

As previously mentioned, most developers and researchers involved in this study realize that the community's leadership is already acting on several suggestions. It is important for the Economic/Industrial Development Committee to continue to maintain close working relations and continual communications with statewide development organizations.

In conjunction with the input from developers and community leaders, analyses were made of several economic resource factors important to industrial development. Several of these areas that are important to the industrial targeting process include human resources, educational resources, mineral resources, industrial support services, transportation, and water/wastewater.

The human resources factor continues to be one of the key elements to development. Labor availability

for existing as well as new businesses and industries in Burke, Columbia, and Richmond counties should remain strong in the future. Projected population growth rates, a younger-than-average median age population, continued net population in-migration, and favorable labor participation rates will provide for a steady supply of labor for economic growth. The trend towards decreased demands for blue collar workers in many types of manufacturing operations will also provide additional persons to the labor pool for employment in other sectors.

Economic development in the study area is steadily increasing. This fact has led to employment growth in all nine industrial sectors. It has kept unemployment rates below the state and national averages. Employment in the service industries has exceeded all other sectors, including manufacturing. The service sector's percentage of total employment seems to be in general accordance with other urbanized areas, but is greater than the percents for Georgia and the United States. Most growth has taken place in the health and education related professional services. In 1970, the employment in health and education amounted to almost 48 percent of the total employment in services. In 1980, the amount increased to over 67 percent in the community.

The service sector should continue to maintain its influence in the area and follow national growth trends. Taking this fact into consideration, it is important for the leadership in the community to remember the need for its support to this growth sector. Although the scope of this study did not allow an in-depth analysis of the service sector, it is an area that might justify future investigation.

#### IDENTIFICATION OF TARGET INDUSTRIES

After analyzing these communities' strengths and weaknesses, additional economic data provided the information necessary to develop an industry selection model capable of identifying fifty industries with the highest potential for location in Burke, Columbia, and Richmond counties.

The computerized selection and screening process is a program based on the application of two distinct matrices to screen 451 four-digit manufacturing industries as identified in the Standard Industrial Classification Manual. Based on an established set of weighted criteria and over 5,500 sets of data, each industry is ranked and arrayed according to its feasibility and desirability.

A feasibility screening matrix identifies industry groups whose location requirements most closely correspond to the area's economic resource base. The screening criteria utilized in this matrix included the following variables:

1. Labor skill requirements (level of blue collar workers)
2. Labor force requirements (employees per plant)
3. Water requirements
4. Natural gas requirements
5. Urban/rural location preference
6. Forward and backward linkages (supplier/market relationship)
7. Product shipment to local/regional markets

The industry groups also were evaluated according to a desirability screening matrix. Criteria were selected and weighted to rank the industries whose characteristics meet certain development objectives and reflect the community's needs and aspirations. The criteria and weight ranges selected and evaluated in this matrix include:

1. Historical growth rates (ranked from declining to very high growth)
2. Project growth rates (declining/low growth to very high growth)
3. Wage levels (very low to very high)
4. Level of labor intensity (highly labor intensive to highly capital intensive)
5. Projected job growth rates (declining to very high growth)
6. Diversification of industrial base

The feasibility and desirability scores for each four-digit industry were combined and ranked by the industry



selection model. Industries with the greatest potential and having total scores among the top twenty-five were considered "first priority." Those with greatest potential and rankings between 26 and 50 were considered "second priority." The top twenty-five ranked industry groups were: electronic connectors, radio and TV receivers, electronic coils and transformers, electronic computing equipment, miscellaneous plastics products, biological products, electronic components, fabricated pipe and fittings, surgical appliances, engineering/scientific equipment, phonograph records, refrigeration and heating equipment, surgical and medical instruments, electronic resistors, travel trailers and campers, toilet preparations, electronic capacitors, mobile homes, fabricated metal products, electrical industrial apparatus, optical instruments and lenses, construction machinery, electron tubes, valves and pipe fittings, and pumps and related equipment.

General descriptions of these industries according to their Standard Industrial Classification (SIC) are found in Appendix B.

Before the selection screening results could be applied, individual candidate companies in each selected first priority SIC industry group needed to be identified. Standard & Poor's Corporation's "Compmark" information retrieval services were employed to assist in providing specific information on approximately 1,200 companies. Companies were selected by primary SIC category and had to have an annual sales volumes of at least \$5,000,000. This listing of companies can be used in an industry recruitment program.

The sponsor has authorized the confidential listings of recommended companies and their addresses be furnished under separate cover for use in a prospect-development and solicitation program. Responsibility for this list will remain with the Greater Augusta Chamber of Commerce, although technical assistance will be provided by Industrial Extension Division staff upon request. For general information, included in the report were suggestions for applying the screening results and a guide for cataloging the needs and requirements of industrial prospects.

Statewide developers and the researchers of this project are familiar with recent development activities in Burke, Columbia, and Richmond counties, and most leaders in these communities believe that the Greater Augusta Chamber of Commerce is taking positive action by supporting and sponsoring this study effort. The results of this study and the continuing efforts by the community leaders and the Chamber of Commerce should ensure the community's success in obtaining new industry and creating job opportunities in the three-county area.

## INTRODUCTION

### BACKGROUND

One of the main functions of the Greater Augusta Chamber of Commerce is promoting economic development in Burke, Columbia, and Richmond counties. To achieve this goal, the Executive Vice President and the Economic/Industrial Development Committee strive to establish and undertake viable programs to enhance the local economy. Economic development efforts focus on creating new jobs in the community, either by enhancing existing industry or attracting new industry.

An important element in a program is the solicitation of prospective new industries for Burke, Columbia, and Richmond counties which would help to continue diversification of the existing industrial base and to expand the tax base. For new industries to be successfully located in the greater Augusta area, their characteristics and requirements must blend properly with the socio-economic resources, needs, and goals of the community.

To determine how to increase the industrial base of the counties, the following questions had to be addressed:

1. What are the major strengths and weaknesses which might attract or discourage new industry as well as aid or hinder the growth of existing industry in the community?
2. What types of industry and companies within each industrial classification should be recruited?

### STUDY OBJECTIVES

This research project involved two principal tasks. First, a "strengths and weaknesses" of Burke, Columbia, and Richmond counties had to be thoroughly investigated. The results of this study would provide the basis for evaluating the assets of and liabilities to economic development in these counties. Appropriate resources also needed to be

analyzed. The information collected from these activities helped identify "Target Industries" for these counties.

A computer program, developed by Georgia Tech's Economic Development Laboratory, and other analytical selection methods, helped create an "industry selection" model to generate a list of target industries best suited for Burke, Columbia, and Richmond counties.

The list of 25 industry groups, classified by four-digit Standard Industrial Classifications (SIC) codes, would be designed to contain highly potential and desirable industrial prospects. From each SIC group, data base research was used to develop a list of company names with addresses. At least 1,000 companies were to be selected and provided to the Economic/Industrial Development Committee of the Greater Augusta Chamber of Commerce for use in its industrial marketing and prospect solicitation programs.

#### REPORT CONTENTS

The first section examines the strengths and weaknesses of Burke, Columbia, and Richmond counties related to economic development. Secondary and primary data sources were investigated to establish a reliable informational base. Secondary source information was obtained from published and unpublished data. Individuals at the local, state, and regional levels were contacted directly to obtain primary source information.

A Community Questionnaire was developed to get confidential information and was used when interviewing leaders at the local community level. An addendum to this questionnaire was included to obtain detailed information from local manufacturers. A Developers Questionnaire was designed and used in obtaining information from full-time state and regional developers with experience in and knowledgeable about Burke, Columbia, and Richmond counties.

The second section of this report gives a detailed explanation of how the industry selection model was used to identify the industries most likely to locate and operate their businesses in Burke, Columbia, and Richmond counties. This screening procedure cites industries whose locational

requirements most closely correspond to the area's resource base and reflect both the local needs and aspirations.

Candidate companies within each major industry group were identified and a list has been provided under separate cover. The list of these companies is one of the initial elements in a marketing program for industry solicitation.



## TASK I

### ANALYSIS OF STRENGTHS AND WEAKNESSES

#### OVERVIEW

An important aspect of any local economic/industrial development program should be determining a community's strengths and weaknesses as they relate to potential growth. The strengths can be used to offset and correct weaknesses. Development organizations can use both factors in designing plans for positive action to create new jobs in the community.

Creating new jobs in Burke, Columbia, and Richmond counties involves having viable programs to assist existing industry with expansion efforts as well as providing the area with assets that will attract new firms to the community. A new manufacturing plant usually creates new direct and indirect jobs, thus reducing unemployment, increasing community property tax revenues, increasing community per capita income, reducing the average per capita tax burden, improving health care and educational systems, justifying recreation, civic, and other livability improvements, reducing local welfare obligations, and boosting personal and community pride.

The most realistic way to determine the assets of and liabilities to economic/industrial development in these counties was to develop strategies to analyze the area using both secondary and primary data sources. This would establish a reliable base of information that could be compiled and analyzed to develop an objective overview.

Secondary data were primarily obtained from statistical data published at the local, state, regional, and national levels. This information was used extensively for inclusion in the "Task II: Identification of Target Industries" section of this report.

Primary source information was obtained by direct contact with key leaders at the local, state, and regional levels. Carefully structured questionnaires helped obtain

candid opinions and impressions. Interviewees were decided by mutual agreement with representatives of the Economic/Industrial Development Committee of the Greater Augusta Chamber of Commerce.

Input from 60 individuals representing 16 different types of organizations was obtained (1).\*/ This study could not have been possible without their complete cooperation. A synopsis of the conclusions reached can be found in the Executive Summary of this report, and a detailed analysis of the procedures and findings is contained in the next two sections.

### INPUT FROM DEVELOPERS

Since most industrial prospects that come into the state looking for potential plant sites do not have specific communities selected, they depend on assistance from statewide organizations with full-time industrial development programs. Most prospects use the Georgia Department of Industry and Trade and/or other organizations such as utility companies, lending institutions, commercial/industrial realtors, the Georgia Business Council, railroads, engineering/architectural firms, and site location consulting specialists.

These professional developers obtain location criteria from the prospects and then match them as closely as possible to the economic profiles of one or more Georgia communities. For counties like Burke, Columbia, and Richmond to be considered in the selection process, developers must have up-to-date information and must be somewhat familiar with these communities. Communities are responsible for making certain that developers are being kept informed. Open communications need to be maintained between key statewide and local developers if a community is to have a successful industrial development program.

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\*/ Numbers in parentheses are keyed to references listed at the end of this report.

Realizing the importance of working with statewide developers, the researchers of this study and the Economic/Industrial Development Committee of the Greater Augusta Chamber of Commerce felt it necessary to obtain unbiased, candid, and confidential opinions from professional developers.

To obtain this information, a questionnaire was designed for use in conjunction with personal interviews when required. The developers were carefully selected on the basis of one important criterion. Persons interviewed had to be full-time development specialists with previous experience working with industrial prospects in the greater Augusta area. They had to be knowledgeable about the communities and willing to participate in the study. Each developer had worked directly or indirectly with representatives of local governments, industrial authorities, and/or the Chamber in handling industrial clients.

After the screening process for developers was completed, each person was contacted verbally and asked if he wanted to participate in the interview. Every developer expressed an interest to provide input into the project. Each person believed that the Chamber of Commerce was taking a positive measure by sponsoring this study.

Each participant completed the Developers Questionnaire, Appendix A. Input was obtained from twenty-four developers representing sixteen different organizations. (For a breakdown of the types of organizations, refer to Table 1 in Appendix A.)

The four-page Developers Questionnaire contained ten major comprehensive questions. Participants were told not to answer any questions about which they were not knowledgeable.

This section summarizes the most important conclusions drawn from the questionnaire. The researchers of this study will attempt to answer questions not specifically covered in this report if the reader will contact them through the Executive Vice President of the Greater Augusta Chamber of

Commerce. Reference will not be made to specific sources of information.

Overall, the outside developers had excellent experiences handling prospects with local developers. The community, including representatives of local industry and local governments, have been very cooperative with statewide developers in their efforts to provide information and to work with the prospects. Developers and industrial prospects have appreciated the professionalism shown to them during their visits to the community. Local government representatives have been able to make prompt decisions concerning the industrial prospects.

It is the responsibility of the community's leadership and the Chamber of Commerce to ascertain that these experiences with outside developers continue to work in a positive manner, ensuring future economic growth with benefits for citizens of Burke, Columbia, and Richmond counties. It must be remembered that the community and its leadership, not the statewide developer, are primarily responsible for selling the community to an industrial prospect.

Statewide developers stated that the area had excellent economic documentation, including community profiles and available industrial site and building flyers. Several developers felt that the Greater Augusta Chamber of Commerce was doing the best data compilation of any development organization in Georgia. Other organizations providing excellent area publications include the Central Savannah River Area Planning and Development Commission and the Augusta-Richmond County Planning Commission. Accurate and up-to-date information on a community is an essential tool for all developers. Industrial prospects also depend on the economic data throughout their community evaluation process. It is easier for statewide developers to promote those communities that have coordinated development programs and sales efforts with documented economic data. Ninety percent of all development organizations said that they had a current file on the communities (2).

Another important component of a successful industrial development program is communicating with statewide developers. This not only involves calling them on the telephone, it also entails making regularly scheduled visits to developers' place of business and having them visit the community. To maintain the momentum of the Chamber's programs, it is essential that regular visits and contacts continue to be made with statewide developers.

All developers believed that the area offered a very good supply of trainable labor. They recognized the role played by the area's post-secondary education systems, especially Augusta's vocational-technical facility and its training programs. This strength is a community asset which must not be omitted in an industrial marketing program. Developers also think the area has a good non-union labor environment. This is somewhat ironic when you consider that Richmond County is ranked ninth in Georgia by the percentage of its total manufacturing employment that is unionized, and there are 70 counties in Georgia that have no unionized manufacturing plants. A positive fact is that 90 percent of the plants in the three-county area are non-union, and 85 percent of the total manufacturing employment do not belong to unions (3). During the study, it was noted that overall company-employee relations in the area are very good. This non-union perception of labor is positive. Local developers should be careful in their consideration of new industries with histories of union problems.

Developers were asked to list the communities in the southeastern United States which have competed for the same prospects as the greater Augusta area. The most often mentioned communities include: Albany, Atlanta, Brunswick, Columbus, LaGrange, Macon, and Savannah, Georgia; Aiken, Columbia, and Greenville, South Carolina; and Greensboro and Thomasville, North Carolina.

The developers were asked their opinions and perceptions about the principal strengths of the community in attracting new industry. The major strengths, including those previously mentioned, are listed in Table 1. Most of the strengths are self-explanatory. Detailed analyses of several strengths are included in the resources section of this report.



Table 1

Principal Community Strengths

1. Excellent livability and quality of life
  - a. Excellent medical services
  - b. Good recreational facilities
  - c. Attractive housing
2. Superior industrial development program
  - a. Strong professional sales team
  - b. Excellent economic data documentation
3. Supportive business/industry climate
4. Good supply of trainable labor
  - a. Good labor climate
  - b. Good labor drawing area
5. Excellent post-secondary educational systems with superior vocational technical facility and training program
6. Good transportation
  - a. Easy access to interstate
  - b. Reasonably close to Atlanta
  - c. Potential of river transportation
7. Good overall, competitively priced industrial sites with developed utilities
8. Strong and diversified industrial base
9. Tremendous industrial support services
10. Competitive taxes
11. Availability of competitively priced utilities

Source: Developers Questionnaire and Survey.

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The developers were also asked for their opinions about the community's principal weaknesses in attracting new industries. Table 2 summarizes their perceptions.

Table 2

Principal Community Weaknesses

1. Lack of fully developed industrial park (Richmond County)
2. Lack of available industrial buildings
3. Distance from north-south interstate highway
4. Perceived limitation of commercial air services
5. Proximity to tax give-aways in South Carolina
6. Heavy industry in area creates image of high wages
7. Unstable political environment (Augusta/Richmond County)
8. Less than attractive look of downtown commercial area
9. Apparent weakness in public education system (Richmond County and Burke County)

Source: Developers Questionnaire and Survey.

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Not only were the developers asked about the strengths and weaknesses of the community, but they were also requested to suggest how the community might attract new industry. Although their recommendations (Table 3) are not necessarily in rank order, all should be considered if the Chamber's economic/industrial development program is to continue its momentum and success.

Developers were asked to compare the three-county area against other communities competing for industrial prospects. Thirteen major categories and 26 subcategories were listed and rated as to whether they would compare as excellent, good, fair, or poor. Averaging the ratings in each subcategory, the community rated excellent to good in all but five areas. The results are considered most favorable since the rankings were made by unbiased, professional developers. No area was rated poor. (Table 3 in Appendix A has a complete breakdown of these economic data ratings.)

Table 3

Recommended Action To Attract New Industry

1. Develop a quality industrial park with utilities in Richmond County
2. Consider the construction of speculative building(s)
3. Become more aggressive in promotional and marketing efforts
4. Promote a positive image of area
  - a. Continue work for improving downtown Augusta
  - b. Project a stable political image
5. Establish positive linkages between the Chamber's economic/industrial development efforts and the local medical facilities and Fort Gordon
6. Publicize a stable economic environment of area
7. Support efforts to improve highway transportation for Augusta-Savannah corridor and to continue improving commercial air service.

Source: Developers Questionnaire and Survey.

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Most of the surveyed statewide developers agreed that the most important action that needs to be taken is the development of an "authority" owned and controlled industrial park with available utilities in Richmond County. Although this action would be expensive, it would show developers that the local leadership is serious about continuing to attract new industry and creating jobs. A verbal commitment is insufficient: statewide developers and their prospects tend to need a tangible declaration. Competition from other communities make verbal agreements very risky.

Researchers of this project have just learned about the new Richmond County Development Authority's industrial park being planned in the southern area of the county. The Authority is to be commended for this action. Although the purpose of this project does not include analyses of industrial properties in the area, the opinion of several

statewide developers might be of interest to members of the Economic/Industrial Development Committee. Several developers believed that the best location for an industrial park in Richmond County would be in the western/northwestern area near Interstate 20. They reason that the south side is more appealing to heavy industry or manufacturers that require large amounts of utility services. A northwestern park would be more appealing to light industry such as some high technology or small utility users. Most developers were aware of the Burke County and the new 300 acre Columbia County Industrial Parks and believed the parks will serve the area well.

Construction of a speculative building on an utility served industrial site was considered to offer the community an excellent opportunity and development tool. Available speculative buildings are costly, but have a history of increasing prospect traffic through most communities. If the prospect is not interested in the building, he might be interested enough in an available site and the community to locate. A speculative building could be developed privately or by an authority.

Although the Greater Augusta Chamber of Commerce is known for its excellent economic/industrial program, many of the developers expressed the need for a more aggressive promotional and marketing effort. They believe that it would benefit the community if it would market itself as the second largest metropolitan area in Georgia and continue to promote itself as the home of the "Masters Golf Tournament," and at the same time emphasize its other quality-of-life assets.

The Chamber's new marketing efforts should promote the area's assets. It should also project a positive image by showing others the recent activities and planning concerning the riverfront development, the positive linkages among the community, Fort Gordon, and the planned National Science Center.

Although this study could not readily identify definitive industrial targeting links with either Fort Gordon or the Medical College of Georgia, statewide developers do believe that these institutions as well as the

Savannah River have significantly enhanced the area's development efforts. Fort Gordon and the Medical College offer economic stability as well as potentials for recruiting high technology industry. Fort Gordon is seen as an immediate, potential source for female as well as male labor.

Developers did not seem too concerned by the long-term effects on economic/industrial development by the negative publicity received about the local political trouble, or the perception of the Burke or Richmond County school systems. They believe the positive assets of the area will overshadow the negative ones. The local news media needs to be aware that negative publicity could make some developers in Georgia more reluctant to bring prospects to the area. Such publicity could also jeopardize Georgia's overall chances for attracting/locating an industry if Georgia is competing with its neighboring states.

The developers sell Georgia to the prospect while local leaders sell the community. The developers service the easiest-to-promote communities, those best prepared for development and new industry.

#### INPUT FROM COMMUNITY

The second major section of the "Strengths and Weaknesses" analysis involved conducting an economic development appraisal of Burke, Columbia, and Richmond counties by obtaining information from community leaders. As in the analysis conducted with statewide developers, community leaders were selected and contacted to participate in the appraisal.

A comprehensive questionnaire was designed asking 41 major questions concerning many different economic factors. Questions focused on traditional criteria, such as: location factors, utilities, transportation, markets and supplies, taxes, government, community attitude toward business, quality of life, and so on. Although most of the questions were directed to businesses and industries, all participants were asked only to complete questions applicable to them. (A copy of the Community Questionnaire has been included in Appendix A.)



To obtain additional information from existing industry, an addendum, "Survey of Manufacturers," with 16 questions was developed. (See Appendix A). Responses were requested on labor; productivity and wages; suppliers; customers; and expansion plans. Supplier and customer information was analyzed in order to determine the potential industries to target.

Because of time constraints and interview scheduling problems, it was decided to give members of the Chamber's Economic/Industrial Development Committee an opportunity to complete the questionnaire. Therefore, not all participants were interviewed. Several of the members furnished their appraisals. Committee members were interviewed for their impressions. Confidential input was obtained from representatives of 36 different organizations. Information was completed on 13 different manufacturers in Burke, Columbia, and Richmond counties whose products ranged from apparel to chemicals. Table 2 in Appendix A provides a breakdown of the types and numbers of participating organizations.

Since the success of any local development organization primarily depends on support and guidance from within the community, the community's input about its own strengths and weaknesses is important. One of the major economic foundations for the area has long been its large industrial base, which should continue. Developers generally believe that the area can expect some of the strongest growth in the state during the next decade.

To improve the community's industrial base and overall economy, the Greater Augusta Chamber of Commerce needs to provide assistance and recognition to existing businesses and industries and to create new jobs by attracting new industry to the community. The leaders' appraisals of their community is a positive process which helps encourage economic growth in the area.

Because of the different types of businesses and industries represented in the appraisals, it is impossible to provide all the responses to every question. Only those answers believed pertinent to this project are summarized in

the report. Questions about areas not covered can be directed to the Chamber's Executive Vice President.

All those who gave an opinion about the community's role in economic development, unanimously agreed that the community should try to increase its industrial base and attract new industry. Most interviewees believe that industrial growth has been moderate. They believe that the industrial base is moderate to well diversified. This diversification has helped to minimize recent recessionary slumps in the national economy, which increased unemployment. Community leaders believed that the Chamber should pursue a program to give recognition and appreciation to existing industries. In fact, during this study period the Chamber announced the creation of an existing industry appreciation program (3). Better communications between local governmental officials in Burke, Columbia, and Richmond counties and existing industries must be established and maintained. These industries emphasized that cooperation has always been received from the local governments on specific, individual requests.

Both the community leadership and statewide developers basically agreed on the area's strengths in attracting new industry. Table 4 summarizes the major strengths cited, but does not give a prioritized listing.

With few exceptions, many individuals representing manufacturers liked their company's location because the location offered a linkage to raw materials, suppliers, and/or markets. Additionally the location provided trainable labor and a good business environment.

In direct relationship to their overall satisfaction with the community, businesses and existing industries would recommend Burke, Columbia, and Richmond counties to other companies for their expansion plans. It is also important to note that 12 participants (33 percent) plan to expand their operations during the next five years. Five of the 12 are local manufacturers. This statistic is very healthy for the community. They believed new businesses and industries would generally provide an overall upgrading of the community, increase the tax base and help to maintain low tax rates, and possibly provide new customers for them.

Table 4

Community Strengths

1. Livability and quality of life
  - a. Outstanding medical facilities
  - b. Good recreation opportunities
  - c. Favorable climate - sunbelt location
  - d. Reasonable cost of living
  - e. Progressive cultural environment
  - f. Adequate housing - availability and price
2. Ease in attracting/retaining professional people
3. Availability of trainable labor
  - a. Good employee work ethics/attitudes
  - b. Reasonable wage levels
4. Limited union activity
5. Pro-business governments
6. Fair local tax assessments
7. Good water supply and general availability of utilities at reasonable costs
8. Adequate transportation services for community's size with access to Interstate 20
9. Favorable attitude of community toward business
  - a. Cooperation between business/industrial segments
  - b. Continue efforts to attract new industry
10. Good diversified industrial base
11. Good support from financial institutions

Source: Community Questionnaire and Survey.

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Over 96 percent of all persons surveyed indicated that their tax assessments were fair. They also believe that the existing local taxes do not discourage new businesses and industries from locating in the community. A majority of the leadership favored a local referendum for a Freeport (inventory) tax exemption in Burke County to assist it with becoming more competitive for new industry with neighboring counties and states. It is interesting to note that while 92 percent of non-manufacturers believe that special

inducements to new industry would not cause hardship to and be negatively received by existing manufacturers, 55 percent of the local manufacturers believe that it would cause hardship to them (1).

There were also community weaknesses cited by the local leadership in the survey. These will be mentioned so that the Economic/Industrial Development Committee and Board of Directors of the Greater Augusta Chamber of Commerce can study them for their validity and determine how they can be properly addressed. Five of the major perceived weaknesses were also noted by statewide developers. Special attention needs to be given to those issues which will directly and adversely effect the overall development efforts of the community. A list of these major weaknesses are found in Table 4 of Appendix A. Since several of these weaknesses have been already discussed at length in a previous section, they will only be mentioned here. A brief explanation of several of these and other general perceived weaknesses are:

1. Lack of adequate, controlled industrial sites and an industrial park in Richmond County with road access and developed utilities including water, sewerage, gas, electricity, and rails. The Richmond County Development Authority is already taking action on this point.
2. Lack of available, industrial buildings. This is an issue that should be addressed by the Economic/Industrial Development Committee as well as by the local industrial authorities. Consideration can be given either to joint efforts by the authorities or to private developers in and out of the area.
3. Absence of political stability in Augusta/Richmond County. Several local manufacturers believed that recent bad publicity received by this community might prejudice their corporate leadership from readily approving expansions or growth in the community. If this occurs, it is unfortunate. Most statewide developers did not believe that the long-term effect would hinder local industrial development efforts.

4. In conjunction with the above items, there seems to be a feeling of a lack of cooperation between the two governments of Augusta and Richmond County. Few specific incidents were provided to these researchers. If this weakness is genuine, it needs correcting as soon as possible so that the community can avoid being labeled by statewide developers as not unified in their development efforts. These developers have not yet recognized this potential weakness.
5. More commercial flights and other air services to and from Bush Field were cited as needs for the community. While a majority of commercial businesses supported this belief, most manufacturers said that although the services were less than ideal, they were overall satisfied. The services do seem adequate for the community's size and have been improving. When demand increases, the airlines will most likely provide more needed and justified services.
6. While local roads and highways are continuing to improve throughout the area, the community expresses an interest for highway improvement in the Augusta-Savannah corridor. Manufacturers seem to be in total support of an improved route to Savannah. It would give them easier and quicker access to the Georgia port facilities. Support of a new highway would be an excellent project for the Chamber to undertake. It is recommended that they follow-up by asking the Georgia Department of Transportation for its input and consideration. A preliminary study for this Savannah River Corridor was completed during 1983 (4).

It is highly improbable that any major highway or interstate connector north of Interstate 20 and Augusta will be built in the foreseeable future. Probably, this highway system would have to go through South Carolina. South Carolina is not likely to divert traffic from its Interstates 26 and 95, because this would adversely effect either



Columbia and/or Charleston.

7. Although the local post-secondary educational systems, including the Augusta Area Technical School, were rated high, several manufacturers expressed a concern about a perceived lack of skilled operators/tradesmen, primarily in tooling, maintenance, and laboratory technicians. These comments might have resulted from a lack of communication between manufacturers and educators in planning for specific training courses.

Augusta Tech is one of the most progressive schools of its type in Georgia. It seems very supportive to industries' needs, when these needs are communicated to the school. The school's present programs, as well as future programs, should be prepared to meet most new and more sophisticated technological needs of industry.

8. Most community leaders have a concern about the quality of primary/secondary education in Burke and Richmond counties, especially the poor perception of Richmond County schools. There is a general concern that the high school graduates are not adequately prepared for the needs of local businesses and industries. Approximately 70 percent of all persons surveyed believed that the students were not adequately prepared. Sixty-five percent, 56 percent, and 42 percent of the leadership said that the students lacked the proper vocational skills, understanding of the competitive system, and a sense of personal responsibility, respectively.

Several manufacturers stated that high school students who have no intentions of attending college avoid taking math and science courses. The students believe that they will not need them when they become employed. This lack of math and science skills can put the graduates at a severe disadvantage when the employer requires these skills for his plant. Most manufacturers are constantly undergoing higher technological changes in their operations. The changes generally require more

advanced and skilled workers and operators.

Recently published statistics by the Georgia Department of Education ranked 179 public high school systems in Georgia according to scores achieved on the Basic Skills Test (5). For informational purposes only: Burke, Columbia, and Richmond County high school system graduates ranked 166.5, 7.5, and 114, respectively. No comparisons were given to the socioeconomic level of the students or the quality of instruction at the school systems.

Of the seven previously mentioned communities in Georgia, which statewide developers say have competed with the greater Augusta area for industrial prospects, five of the test score rankings exceeded those of Burke and Richmond counties (5). All communities with poor scores and rankings should be concerned. It is possible and highly probable that the in-state and out-of-state communities, competing in economic/industrial development, could use these figures to their competitive advantage.

9. Tourism could be more economically beneficial to Burke, Columbia, and Richmond counties if this asset was promoted more effectively. Careful consideration needs to be taken in an effort to receive maximum benefit from such assets as Clarks Hill Lake, the Savannah River, the state parks and historic sites, and the entertainment and other recreational activities. According to many statewide developers, the community needs more identity than the Masters Golf Tournament.

The Economic/Industrial Development Committee and Board of Directors of the Greater Augusta Chamber of Commerce are already aware of most of these impressions. They should realize that the above summaries indicate areas which, if not addressed, could possibly make it more difficult for new industry to locate. These areas could also hinder the growth and expansion of existing businesses and industries.

Local respondents to the survey were evenly divided as to their opinions about the effect of South Carolina on economic industrial development efforts in the greater Augusta area. Thirty-three percent felt that the closeness had either a positive, a negative, or no effect. Business and manufacturers enjoy the source of labor offered, while those citizens directly involved in the area's development felt that South Carolina's "tax give-aways" put the Augusta area at a distinct disadvantage when recruiting new industry. Businesses seem to enjoy the benefits of nearby South Carolina citizens spending their money shopping and entertaining themselves. Industrial supply and service businesses benefit from sales in South Carolina. Sales allow these businesses to justify and offer more goods and services to local manufacturers.

In conclusion, the Greater Augusta Chamber of Commerce should not look upon the community's strengths and weaknesses, as perceived by itself and others, as either a panacea for its success or condemnation to failure. Rather, the Chamber should use them as guidelines for fine tuning its existing programs as well as designing and carrying out new programs.

## RESOURCES

Although most secondary resource information has been utilized in the target industry selection study and is described in a later section, a synopsis of several of these and other resource findings follows. Since the three-county area is already extremely well documented with local publications by local planning and development organizations, data will be mostly presented in summarized form.

### Human Resources

Much overall growth has occurred in the three counties over the three decades since 1950. The average growth of the three counties exceeded the percentage population increases of many other counties in the 13-county Central Savannah River area between 1970 and 1980. Their average of about 19 percent equaled Georgia's overall growth. Columbia County exceeded the average state population growth during

the past ten years by over 60 percent. Columbia and Richmond counties were among the top ten counties in actual population increases in Georgia during the past decade. The counties also exceeded the average percentage growths for neighboring counties in South Carolina. State and national data suggest that the counties and area will continue to exceed state and national growth trends between now and the year 2000 (6, 7, 8, 9).

The area has a younger-than-average median age population, and expectations for a continued net in-migration of population are generally positive, especially with the influence of the Augusta MSA (7, 9). This population growth should provide a healthy and positive economic development benefit to the future economic growth of the area.

Total employment in the counties have steadily increased. Service employment is quite high, in contrast to both the state and the nation. Augusta's status as the area's sales/service center accounts for this fact. Manufacturing employment is declining somewhat as a percentage of all employment and is following state and national trends. The community's thrust to strengthen its manufacturing sector through a commitment of continued improved utility services, industrial properties, improved quality of life, and economic development efforts should assure growth in this vital area. A breakdown of percent employment by industrial sectors in 1980 is noted in Table 5 (9, 10, 11).

Taking the nine occupational sectors shown in Table 5, white collar occupations dominated the three-county area in 1980, accounting for more than half of the total jobs. Next was blue-collar jobs, representing 31.5 percent of the employed persons. Both Georgia and the United States had similar percent distributions except for service occupations. A breakdown of blue and white collar occupations in the manufacturing sector for the Greater Augusta Area versus the United States amounted to 71 and 74 percent, respectively (10, 11). Refer to Table 6. For a comprehensive breakdown of the four occupations, please refer to Table 5 in Appendix A.

Table 5

Employment by Industrial Sector  
Percent 1980

	<u>Greater Augusta</u>	<u>Georgia</u>	<u>United States</u>
Services	35.7	23.6	28.7
Manufacturing	18.8	25.0	22.4
Retail Trade	16.4	16.0	16.1
Construction	7.0	6.7	5.9
Transportation & Utilities	6.2	8.4	7.3
Public Administration	6.1	6.0	5.3
Finance, Insurance & Real Estate	4.6	5.8	6.0
Wholesale Trade	3.0	5.1	4.3
Agriculture, Mining	2.2	3.4	4.0

Source: U.S. Bureau of the Census, 1980 Census of  
Population.

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Table 6

Occupation of Employed Persons  
Percent 1980

<u>Occupation</u>	<u>Greater Augusta</u>	<u>Georgia</u>	<u>United States</u>
White Collar	50.9	50.4	53.0
Blue Collar	31.5	34.6	31.2
Service	15.9	12.9	12.9
Farm	1.7	2.9	2.9

Source: U. S. Bureau of the Census, 1980 Census of  
Population.



The labor force participation is the ratio of the number of persons in the labor force to the total population of persons 16 years of age and over. The participation rate can be viewed as the relationship of the size to the population of an area. For example, an area may have a very high population compared with other areas, but if the participation rate is low, there may actually be a smaller labor pool to draw from than in areas with a smaller population but higher participation.

The 1980 labor force participation average rates for the three-county area exceeded those for either the state or the nation. (See Table 7.) This speaks very favorably of the area, and echoes input from developers and local leaders that a good supply of available labor exists.

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Table 7

Labor Force Participation Rates by Sex and Area  
Percent 1980

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Area Average	77.7	53.4	65.1
Burke County	71.4	45.2	57.3
Columbia County	82.3	53.1	67.3
Richmond County	77.3	54.3	65.5
Georgia	75.8	52.3	63.4
United States	75.1	49.9	62.0

Source: U.S. Bureau of the Census, 1980 Census of Population

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The labor pool of an area may be raised by increasing the labor participation rate. At first glance, this would seem to be a difficult task in any area as well as the study area. However, with current trends of greater numbers of women seeking to enter the labor force and current trends of lower college enrollments, it is possible to increase the rate. In addition, the dynamic effect of new jobs in an area, particularly in relatively high-paying jobs, will draw

into the work force people who have not been participating because the available jobs have not been considered to be sufficiently attractive.

While labor force participation rates are useful in an analysis of the area's labor pool, a more practical measure is the labor force availability as measured in estimates of registered unemployed labor made by the Georgia Department of Labor and South Carolina Security Commission. These statistics indicate that in May 1984, a ten Georgia and two South Carolina county area around Augusta had over 13,844 persons who were considered available for employment (12, 13). These estimates do not necessarily represent the total number of workers available for attractive job openings, since other trainable workers could be recruited from housewives, farm laborers, and students currently not in the labor market.

Another segment of the labor pool, in addition to these persons, include the citizens already employed in neighboring counties. It is estimated that 7,376 citizens of Burke, Columbia, and Richmond counties commute to counties outside their place of residence to work. Approximately 764 citizens commute to eight other Georgia counties while 4,483 commute to six counties in South Carolina (14, 15). Each of these workers can be considered potentially recruitable and employable in a business or industry within Burke, Columbia, or Richmond County. Refer to Table 6 in Appendix A for a complete breakdown of outflow commuting patterns.

The Burke, Columbia, and Richmond labor market area includes 13 other Georgia counties as well as 13 counties in South Carolina. Total inflow of workers from these counties into the study area amount to over 12,500 persons daily (14, 15). The counties that have over 150 of their citizens commuting into the study area include Emanuel, Jefferson, Jenkins, Lincoln, McDuffie, Screven, and Warren counties, Georgia, and Aiken and Edgefield counties, South Carolina. Refer to Table 7 in Appendix A for a comprehensive breakdown of inflow commuting patterns.

Taking all economic factors into account, the greater Augusta area should continue to provide a favorable labor

market to both existing and new business/industry. Its labor drawing ability is an excellent asset for local developers to utilize in their efforts to create new jobs for the community.

### Educational Resources

Educational attainment and educational institutions are important factors to consider when analyzing the resources of an area. The educational attainment of the adult population reflects to some extent their ability to pursue productive careers. The educational process equips students with productive skills and also provides for the social development of the community. In 1980 the percentage of the total population over 25 years old with four years of high school education was 60.6 percent in the study area, 56.4 percent in Georgia, and 66.5 percent in the U.S. Those completing four or more years of college amounted to 14.4 percent in the study area, 14.6 percent in Georgia, and 16.2 percent in the U.S. (10, 11). Refer to Table 8 for a complete breakdown of the individual counties.

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Table 8

Adult Educational Attainment by Area, 1980  
Total Population, 25 Years Old and Over

<u>Area</u>	<u>High School Graduates</u>	<u>4 Years or More College</u>
Burke County	38.6%	7.9%
Columbia County	67.2%	15.4%
Richmond County	61.4%	14.8%
Georgia	56.4%	14.6%
United States	66.5%	16.2%

Source: U.S. Bureau of the Census, 1980 Census of Population.

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Augusta Area Technical School provides many companies in the CSRA with semi-skilled and skilled employees. Present

enrollment is 1,005 students. This school is one of three technical schools receiving Georgia State funding to provide high technology training programs.

Augusta College and Paine College offer both undergraduate and graduate programs. Augusta College offers many programs in the evenings to accommodate students who work full time. Georgia Institute of Technology and the University of South Carolina offer video-based graduate engineering programs in the Augusta area. The Medical College of Georgia and its School of Dentistry is also located in Augusta. This diversification of educational institutions and their resources, including course curriculums, offer the area's citizens, as well as businesses and industries, a wide variety of programs. These programs should meet the requirements of most organizations.

#### Mineral Resources

The principle rock and mineral resources within the three-county area are kaolin and structural clays, fuller's earth, sand and gravel, and deposits of talc, soapstone and related rocks. Production and utilization of clays presently represent the important mineral resources related segment of the economy in the study area. The Central Savannah River Area Planning and Development Commission saw the need for mineral resource development and has provided coordination for studies to determine the location of and evaluate mineral deposits offering promise for development in the area.

#### Industrial Support Services

The three-county study area has an extremely diversified industrial base which creates adequate demand for a variety of industrial support services.

There are over thirty consulting engineering practices in the study area. These range from individual practices to large multi-service consulting firms. Several of the nation's largest construction firms have jobs in the study area or nearby at any given time. Local construction firms can handle a variety of jobs as can local mechanical,

electrical, and other specialty contractors.

A good support services structure exists for industrial maintenance in the area. There are eight electric motor repair shops and twenty-two machine shops which offer a full range of services. There are area job shop capabilities in heat treating, forging, casting, metal stamping, plating, plastic fabrication, sheet metal fabrication, steel fabrication, and welding. Other support services include mill suppliers, steel distributors, container fabricators, and waste disposal services.

### Transportation

Transportation plays a key role in assisting areas to achieve economic development. An area's accessibility to potential major and minor markets must be considered along with other aspects such as labor, utilities, and various natural resources. Good transportation facilities are available in the three-county area. The major transport modes serving the region include air, highway, rail, and water. They link many major urban marketing areas in the eastern and southeastern United States. A brief summary of the major modes are:

1. Major highways in the area include Interstate 20, four U.S. highways, and seven state routes. Local access roads which link the area with the Interstate 20 include the Bobby Jones Expressway (I-520) and the John C. Calhoun Expressway. Both expressways will provide additional economic benefits when they are completed.

As previously discussed in this report, the major weakness with the highway system in the area is the absence of a major north-south connecting route. The most feasible road system would include a four-lane highway connecting Augusta and Savannah. A great deal of commercial traffic moves between the cities. An improved highway system connecting them would improve traffic flow and be a tremendous asset to economic/industrial development for the entire region. Highway systems connecting the community to I-85 to the North or to I-75 (Macon area) to the



Southwest are less likely to be constructed in the foreseeable future. Please refer to Figure 1 in Appendix A for a map depicting the proposed (not funded) economic developmental highway system as prepared by the Georgia Department of Transportation.

2. The Augusta area is served by two rail systems. Central of Georgia, a subsidiary of the Norfolk-Southern system, connects Savannah and Augusta. The Seaboard Coastline Railroad, a subsidiary of Family Lines system, serves the Savannah-Augusta route through South Carolina by exiting Georgia at Clyo and re-entering in Augusta. The Seaboard system runs eight trains a day between Savannah and Augusta and the Central of Georgia Line runs five trains a day between the cities. These two railroads also link the area to all ports of the United States.

Reciprocal switching, transit privileges, piggyback, and pickup and delivery service are available. The recent relocation of rail lines in the downtown area of Augusta should help reduce traffic congestion and provide better access to commercial areas.

The railroads' share of the region's total shipping has diminished in recent years as trucking has become the dominant transport mode. Augusta is served by eighteen commodity truck lines that maintain terminals in the area. There are twenty-three interstate truck lines and eight intrastate lines servicing Richmond and Columbia counties. Seven interstate lines and two intrastate lines provide service to Burke County.

3. Bush Field in Augusta is a major airline carrier airport. Atlantic Southeast, Atlantis, Delta, and Piedmont Airlines serve Augusta with thirty arriving and departing operations daily. The airport lies ten miles south of the city of Augusta on Highway 56. Flight connections are available to all major cities via Atlanta with overseas flights to London, Frankfurt, Brussels and other major overseas cities.

Daniel Field is located in West Augusta near the city. As a basic utility airport, it serves small aircraft and business planes. The Burke County Airport, located three miles south of Waynesboro, serves the community with general aviation.

4. Continental Trailways, Greyhound, and Southeastern Stages, Inc., provide national bus service in Burke, Columbia, and Richmond counties. The City of Augusta operates an intercity bus service.
5. The Savannah River between Savannah and Augusta serves as one of Georgia's two navigable channels. The navigable distance is approximately 180 miles. The channel depth is approximately 9 feet.

Barge transportation is available as well as riverside storage served by truck and rail. The Corps of Engineers has discontinued maintenance of the channel due to insufficient tonnage being shipped. Other methods of transportation are more economical at this time. However, should unforeseen events occur that threaten rail and truck transport, river transportation would be a viable alternative.

#### Water/Wastewater

Communities seeking new industry must consider the demand that the industry places on existing potable water systems. Industries with limited needs for water, for example those which require wastewater treatment services as opposed to process water, probably will find that municipal water systems are the most economic systems. Industries which require large amounts of water generally prefer access to surface water supplies, if they are available. These industries can install their own treatment methods to the levels that their processes require.

Wastewater treatment plant capacity is more important today than ever before. Environmental concerns have led to strict controls over all wastewater discharges, with legal limits established for both quantity and quality of every wastewater discharge in the state. The basis for the

limitations is contained in regulations written by EPA under the National Pollutant Discharge Elimination System (NPDES), administered in Georgia by the Georgia Department of Natural Resources Environmental Protection Division (EPD).

Adequate wastewater treatment plant capacity can have a significant impact on an area's ability to sustain growth. Individual septic tanks for households and businesses can provide waste treatment if proper soil conditions are met; however, this may not be as environmentally attractive as centralized treatment facilities. Manufacturing operations with substantial discharges would have to use municipal systems unless they maintained their own treatment process and were located near or on surface water.

A brief assessment of water resources and related wastewater treatment systems are as follows:

1. The study area comprises two distinct physiographic areas, the Piedmont and Coastal Plain Providences. Marking the boundary between these two geological areas is the Fall Line, so called because of the steep fall of rivers as they cross this boundary. Refer to Figure 2 in Appendix A for a map of the Fall Line's general location.

The major sources of water in the area are the Savannah River, its tributaries, and groundwater. Groundwater is the chief source of supply for many of the communities in the region and is in abundant supply in the Coastal Plain. Groundwater is limited in the Piedmont. Water is available there only in the thin mantle and fracture zones of the rock. Wells in this area typically yield only 1 to 10 gallons per minute (gpm) as compared to 1,000-2,000 gpm in the Coastal Plain immediately south of the Fall Line. A large supply of water can usually be found within 700 feet of the ground surface in this region. Industrial development north of the Fall Line (most of Columbia County) would normally have to depend on surface water for any significant supply.

The primary source of groundwater in the Augusta

area is the Cretaceous aquifer. A recent study conducted by Lee L. Gorday defines the aquifer in more detail (15a). Gorday separates the aquifer into the "basal Cretaceous" aquifer and the "upper Cretaceous" aquifer. The upper aquifer is not as extensively developed as the basal aquifer and would therefore provide a primary source of water development for the region. Groundwater availability is good in central and southern Richmond and the northern Burke County areas.

Burke, Columbia, and Richmond counties' water resources appear to be more than adequate to support economic growth. The Savannah River, along with its major tributaries, can supply most industrial water needs. However, because of surface water permit restrictions, those industries utilizing a significant amount of water in their process (significant water depletion) may find it difficult to secure a surface water permit. Those that return most of the water (95%) should have no permit problems.

Since groundwater resources are some of the most abundant in the state, many industries may find groundwater an adequate water resource. Permit restrictions are less stringent for groundwater and the upper aquifer below the fall line is a largely untapped source that can support substantial economic growth.

The capacity data presented in Table 8 of Appendix A on municipal systems was obtained from operating reports and permit applications submitted to the Environmental Protection Division of the Georgia Department of Natural Resources. Facilities were contact where ambiguities or missing data was encountered.

Water demand can be measured in terms of maximum demand or average demand. Average demand was used for determining excess capacity because this is the amount that must be maintained on a continuous basis. It is assumed that peaks could be handled

with storage facilities.

The excess capacity column in Table 8 is the amount that design capacity exceeded the average demand. The excess capacity was then converted to population equivalents in order to estimate the municipal system's ability to accommodate growth. The average consumption of water is estimated as 150 gallons per person per day according to the Environmental Protection Agency (EPA). Excess capacity divided by the usage rate yielded the population equivalent column in Table 8. The planned Augusta expansion will create substantial excess capacity. Other systems with high population equivalent capacities, i.e. greater than 10,000 are Columbia, Richmond, and Waynesboro water systems.

2. The ability of communities to treat wastewater, especially from industrial sources, is one of the major hinderances to economic development in most areas. To complicate development efforts, the term "capacity" is not a precise term. The capacities of existing municipal wastewater treatment plants are derived from design flow (legal size). The current demand used is the average flow measured for that facility. Excess capacity is defined as the difference between the design flow (legal size) and the current flow. Plans to expand are incorporated where appropriate.

The capacity and demand information presented requires some clarification. Design capacity may differ from operating capacity due to influent strengths, operational efficiencies, incompatible industrial waste, etc. Demand may be affected by rainfall because of its affect on the measured flow. Also, flow measurement devices are not always accurate, especially at small facilities of less than .5 million gallons per day (MGD) flow.

The capacity number used are based on NPDES permit information. This is the legal maximum average daily discharge allowed which may be higher or lower than the design capacity. Existing wastewater



treatment plants capacities, current demand, and excess capacity figures are shown in Table 9 of Appendix A.

A sewerage plant's ability to accommodate industrial waste is largely dependent on the waste characteristics of the industry. For example, the three parameters commonly used to define waste are five-day biochemical oxygen demand (BOD), suspended solids (SS), and flow in gallons per day (GPD). Because these parameters vary significantly by industry, it is not possible to project industrial equivalent capacities except for specific cases.

Public Law 92-5000 now requires municipalities which are constructing facilities under the grant program to develop and implement user charge/industry cost recovery systems. Under this system, users would pay a charge proportional to their contribution to the operations cost of the facility.

In general, costs are related to the level of treatment required. Secondary treatment is the minimum level allowed and is associated with streams which are "effluent limited." "Water quality limited" streams require higher levels of treatment. Thus, treatment is more costly for plants discharging into water quality streams as compared to effluent limited streams.

The governments in the three-county study area are enhancing their development potential by planning for future economic growth. Four local wastewater treatment facilities are either being expanded or expansions are being designed. The large municipal system of Augusta is undergoing an expansion to 33 MGD. The present system is permitted to 22.5 MGD, because of its organic treatment capability. Another expansion, planned within the next five years, will greatly increase the community's ability to handle wastewater from existing and new industry.

Task I has been a general analysis of the strengths and weaknesses of the Burke, Columbia, and Richmond County area

as they relate to economic/industrial development. Confidential input was obtained from community leadership and statewide developers. Their perceptions have been reported for the benefit of this project's sponsor as well as for being used as input to the target industry task. General comments in the resource section will also be utilized as both objective and subjective data sources in Task II.

## TASK II

### IDENTIFICATION OF TARGET INDUSTRIES

#### INDUSTRY SELECTION CONSIDERATIONS

The analysis of the economic and resource base of Burke, Columbia, and Richmond counties in Task I of this report was intended to indicate strengths, weaknesses, and adequacies of the study area where they exist. The results of this resource analysis and additional economic data researched in Task II provided pertinent input into the development of an industry selection model that could be used to identify those industries best suited for Burke, Columbia, and Richmond counties. The industry selection model as constructed and described in this chapter, considered the following findings and conclusions of the strengths and weaknesses analysis:

1. The three-county study area is not as highly industrialized as the average for the state or nation. Further industrialization should continue to be a local priority with its development efforts. New industry improves tax bases as well as providing jobs for its citizens. The efforts should, however, be more selective, concentrating on those industries that are most feasible and desirable for the community. Local leadership should be commended for their past, present, and future efforts in economic development. Approximately 28 "Fortune 500" companies, located in the three-county area, speaks well of these communities (16).
2. The food and paper industries are the major manufacturing employment sources in Burke, Columbia, and Richmond counties. Textiles and chemicals rank next in importance. Other significant manufacturing sectors are stone and clay and apparel. Because of this diverse manufacturing base, no one industry dominates. A survey using other company data from the 1984-1985 Georgia Manufacturing Directory indicates that out of approximately 190 plants,

there are 87 different primary and 32 secondary product codes (17).

This diversification, along with the employment impacts of services, retail trade, government, and other sectors accounts for a very stable economy.

3. Inflow and outflow commuting patterns and current data on the availability of labor indicate that a large pool of labor is available for employment by existing industries as well as new industries locating in the community. Even with the available labor, to lessen the impact on the community of the possibility of losing a major plant employing hundreds of persons, emphasis should be placed on attracting firms that require small to medium work forces. The average work force in all manufacturing plants in Burke, Columbia, and Richmond counties is 95 employees per plant, while the work forces of plants in Georgia and the United States are 97 and 54 employees, respectively (17, 18).
4. The natural resource base for the counties and surrounding area is somewhat unique and seems to be well utilized, particularly in regard to forest and mineral resources. Although there have been brief periods of spot water shortages during extreme dry weather conditions in some sections of Georgia, there seems to be a very low probability in the future of water shortages for industrial purposes in the Augusta/Richmond County area. Surface water from the Savannah River and groundwater for areas below the "Fall Line" should prove sufficient for the foreseeable future. Although planned efforts to allow more water to be available to new and existing industries, overall emphasis in the three-county area should still be given to industries with moderate water requirements, especially wastewater treatment requirements outside the service area of Augusta/Richmond County's sewer system.

The future of natural gas costs and availability seems to be with the federal government's unknown plans for further deregulation on this type of

energy. The availability of natural gas to new industry in the Augusta area and the gas serviced area will probably remain about the same as in the recent past. The availability of natural gas to the area should be as adequate as any other community served by the Atlanta Gas Light Company. Gas prices should also remain competitive with other forms of energy. Consideration should be given to industries which require low to moderate gas requirements.

5. Columbia and Richmond counties belong to the Augusta Metropolitan Statistical Area (MSA). This association is considered to have a positive affect on the community's industrial development efforts by a majority of the community leaders. This closeness improves many aspects of the quality of community life; provides for an expanded labor supply base; accesses existing and future industry to major markets; accesses needed communication, information, transportation, and other industrial services.

With these and other considerations in mind, an industry selection model for Burke, Columbia, and Richmond counties was developed. The procedure used to identify industry candidates involved two distinct screening matrices. The Feasibility Screening Matrix identified industries whose basic requirements and attributes most closely corresponded to Burke, Columbia, and Richmond counties' resource base as determined by primary and secondary informational sources. After the most feasible industries had been identified and ranked, the Desirability Screening Matrix was used to screen industries according to the degree to which they corresponded to certain development objectives of the community.

Although the emphasis of the industry selection model is on attracting new plants, it should be noted that economic development must pay equal attention to encouraging the expansion of existing facilities and services. According to the Georgia Department of Industry and Trade, approximately 60 percent of the new jobs created by manufacturing in Georgia during the past five years resulted from growth and expansion in existing industry (1). Five manufacturers in Burke, Columbia, and Richmond counties, which were surveyed



during this study, are either expanding or planning to expand their companies during the next five years. These expansions should result in the creation of several hundred new jobs.

### FEASIBILITY SCREENING

The purpose of the Feasibility Screening Matrix was to screen the 451 four-digit manufacturing industries identified in the Standard Industrial Classification Manual in order to determine those industries whose location requirements most closely match the characteristics of Burke, Columbia, and Richmond counties (19). The screening criteria used, the weights assigned to the screening criteria, and a description of the Feasibility Screening Matrix industry results are discussed below.

#### Screening Criteria

The criteria discussed below were selected and applied to the 451 industries to identify the most feasible industries. Data were thoroughly researched and compiled to assure that the most recently published information could be utilized in the selection model. This input was statistically sorted for each industry by its Standard Industrial Classification (SIC). All industries were arranged from highest to lowest for each criterion. The ranked industries were then subdivided into groups, and relative values were assigned to each group. Decisions regarding where to establish these limits for the three, four, five, or six groups were based on a statistical analysis and other considerations. The limits and the screening criteria are described below.

Criterion 1 - Labor Skill Requirements. Given the level of blue-collar/production employees in Burke, Columbia, and Richmond counties compared with other areas, it was felt that an industry group which had as one of its characteristics a medium-to-high percentage of blue-collar employees (emphasizing those employed as craft and kindred workers, operatives, and nonfarm laborers) would be a candidate manufacturing industry. The percent of blue-collar in the area versus the United States average equaled 74 and 71 percent, respectively. Also, because many area

manufacturers predict a decrease in the numbers of blue-collar workers in their operations, new industries will be needed to employ these excess workers that are displaced by their employer.

The percent of these workers employed by each industry was the measure used (20). Using local statistical data, subweightings were determined. The categories used in ranking are as follows:

- 6 = Over 80 percent operatives
- 8 = 70-80 percent operatives
- 6 = 61-69 percent operatives
- 4 = Less than 61 percent operatives

Criterion 2 - Labor Force Requirements. After examining the population densities and the labor force resources of Burke, Columbia, and Richmond counties, it becomes obvious that firms with small- to medium-sized work force requirements would be more likely to consider specific locations within the area. These work force requirement guidelines were expressed by many statewide developers as well as existing industry in Burke, Columbia, and Richmond counties. This characteristic also conforms to the prevalence in the area of small- to medium-sized, utility served, industrial sites which could accommodate firms whose land requirements are not excessive. There is also a less detrimental impact on the community whenever a plant employing fewer workers closes. Existing industry tend to find it easier to accept new industries which do not employ large numbers of persons. In order to arrive at some measure of labor intensity, a selection was made of industry groups based upon typical employment profiles (17, 18). National averages for labor force requirements were 54 workers. Both Georgia and the Augusta averages for employment equal about 97 and 95 persons, respectively. Weights assigned were:

- 9 = Employment under 100 persons per plant
- 7 = Employment from 100 to 200 per plant
- 5 = Employment from 200 to 300 per plant
- 3 = Employment from 300 to 400 per plant
- 1 = Employment greater than or equal to 400 per plant

Criterion 3 - Water Requirements. Although both groundwater and surface water are available in the three-county area, most of the prospective industrial operations in the area will rely upon municipal systems. Regulations requiring stringent wastewater controls and the enormous costs of installing independent self-contained water systems, make dependence upon municipal-served water the most attractive alternative. Of course, even with dependence upon municipal service, there are constraints as to effluent content and sewerage treatment capacity. Based upon this approach, those industries indicated to have modest water requirements appear most feasible for Burke, Columbia, and Richmond counties. Companies with large process water requirements have access to surface water from the Savannah River, as well as groundwater for those plants located near or below the "Fall Line." If this occurs, local waste treatment facilities might be required to treat the affluent. While water intake of industries in the United States is not easily determined, annual discharge of water, by three- and four-digit industry categories, can be used as a reliable measure of water demand (21). The industries were weighted as follows:

- 7 = Less than 100 million gallons
- 5 = 100 to 500 million gallons
- 3 = Greater than or equal to 500 million gallons

Criterion 4 - Natural Gas Requirements. Although natural gas is relatively limited at times and its distribution is somewhat restricted in some areas, the Augusta area's gas supply and distribution system is considered competitive with other communities in Georgia as well as with other neighboring states. Augusta's location on the main distribution supply line allows its existing industry with locational advantages if they require large quantities of natural gas. This fact is confirmed because the local supplier's, the Georgia Natural Gas Company/Atlanta Gas Light Company, largest customer in Georgia is located in the area (22). In order to weight this criterion, a variable measuring the value added per 1,000 cubic feet of natural gas was constructed (18, 23). For two firms producing approximately the same dollar output, the more moderate user of natural gas would be considered more feasible for Burke, Columbia, and Richmond

counties. The averages for the Augusta area and United States average are 663 and 724, respectively. Weights established were as follows:

- 7 = Low gas requirements: greater than or equal to \$500 of value added per 1,000 cubic feet of natural gas
- 5 = Moderate gas requirements: from \$100 to \$500 of value added per 1,000 cubic feet of natural gas
- 3 = High gas requirements: below \$100 of value added per 1,000 cubic feet of natural gas

Criterion 5 - Urban/Rural Preference. Another feasibility factor deemed appropriate is the measurement of traditional orientation that industry groups may have toward urban or rural locations. This measure is imprecise, because of the blurring of terminology for a definition of "rural" as well as the absence of clear and positive data. Most of the data which was developed pertains only to the three-digit level. However, by examination of the current employment of three-digit industry groups in Metropolitan Statistical Areas (MSAs) in the Southeast, ratios with employment were constructed (24). It was determined by the survey of community leadership and statewide leadership that Burke, Columbia, and Richmond counties and the designated Augusta MSA would make it advantageous to attract MSA or urban oriented industry. Weights assigned for this characteristic are as follows:

- 9 = Less than 35 percent employment in non-MSAs
- 6 = 35 to 64 percent of employment in non-MSAs
- 3 = Greater than or equal to 64 percent of employment in non-MSAs

Criterion 6 - Forward and Backward Linkages. This criterion was included to measure the significance of industry groups linked to suppliers or with markets in proximity to the Augusta area. An industry received a score which reflects the degree to which it had either forward or backward linkages with existing industries in the immediate market area.

Input-output tables based upon national industry structures were used for identification of linkages. The linkage analysis was based upon the most important

activities now found in the area. The activities purchasing from these industries were then identified (forward linkages), as were the industries which supply these major activities (backward linkages) (25). This pattern of linkages is based on interactions between different types of industries, not specific firms. Many of these linkages involve firms in the study area, but it is not possible to indicate precisely the extent to which supplies and demands are actually located in the study area. Industries with a greater number of linkages increase the possibilities of having their linking industries located in closer proximity to each other. The industries were then weighted as follows:

- 9 = More than 10 linkages
- 6 = From 6 to 10 linkages
- 3 = 0 to 6 linkages

Criterion 7 - Product Shipment to Local/Regional Markets. The ability to serve regional and national markets is considered an important characteristic for a candidate industry, especially in view of the present markets in the area. Its importance is already evidenced by the fact existing industries in the area have both large national and international markets for their products. Good local and area highway and rail transportation facilities, plus a reasonable access to the Savannah port facilities, allow existing industries to serve their market areas competitively. Identification of industries that serve regional and national markets was measured by a surrogate percentage product shipment in mileage (25). The industries were weighted:

- 7 = Over 59.9 percent of shipments were over 300 miles
- 5 = 46.6 percent - 59.9 percent of shipments were over 300 miles
- 3 = Less than 46.6 percent of shipments were over 300 miles

#### Feasibility Criteria Weighting

Each of the 451 candidate industries was screened, using the above criteria, to identify those considered to be the most feasible for Burke, Columbia, and Richmond counties.



The result is a matrix displaying favorable characteristics for each industry group. In order to provide a single measure of feasibility and to provide a means for arraying the candidate industries relating to the area's resources, different weights were assigned to each of the criteria. These are identified in Table 9.

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Table 9

Feasibility Matrix Screening Criteria Weights

<u>Criterion</u>	<u>Weight</u>
Labor Skill Requirements	21
Labor Force Requirements	22
Water Requirements	29
Natural Gas Requirements	14
Urban/Rural Preference	21
Forward and Backward Linkages	19
Product Shipment to Local/Regional Markets	14

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Feasibility Screening Results

The total feasibility score for an industry was determined by multiplying by the assigned weights the score obtained by that industry on each factor, and then summing the seven values. All industries were ranked and those industries whose total scores were highest are considered to be the most feasible since they most closely relate to Burke, Columbia, and Richmond counties' resources and existing economic structure. The total feasibility score for an industry was the basis for more detailed examination, using the Desirability Screening Matrix.

DESIRABILITY SCREENING

In the Feasibility Screening Matrix, the 451 industry groups were screened to identify the most feasible candidates for further investigation. In another detailed

analysis, all 451 industries were again screened, using certain desirability characteristics.

### Screening Criteria

Development and investment objectives are required to create a strategy which can produce the desired results, reflecting Burke, Columbia, and Richmond counties' needs and aspirations. Data from Task I as well as research information compiled during Task II provided assistance and input in identifying certain development goals which were translated into a set of criteria. These criteria included the historical and projected growth rates by domestic production output; the utilization of the existing labor force; the attraction of higher, but compatible, wages; continued need for diversification of the economic base; and projected job growth rates.

These criteria were then translated into measurable characteristics and applied to the candidate industries. As in the Feasibility Screening process, the latest available information was used to update the statistical data for each criterion. All these data for each criterion were arrayed from the highest to lowest, and subdivided to determine how one four-digit industry compared with others for specific desirability criteria. Industries that ranked highest or maximum in terms of the criteria were considered "very desirable," another group ranked moderate are considered "desirable," and the lowest group of industries was ranked "least desirable" industries. The decision where to establish these limits was based on established analyses and other considerations. The screening criteria are described below.

Criterion 1 - Historical Growth Rates. This criterion measures actual growth in domestic output as the average annual percent change value in 1972 dollars between 1960 and 1982 (26). It was selected for inclusion because it identifies historical growth industries, thus helping to highlight those industries most likely to locate new plants in new areas. Industries in decline, in most cases, will likely be less desirable targets for industry-attraction programs. The industries were weighted as follows:

- 10 = Very high growth: annual average percent change output recording 10.00 percent gain or better
- 8 = High growth: output change between 4.60 percent and 10.00 percent
- 6 = Moderate growth: output change between 3.70 percent and 4.60 percent
- 4 = Low growth: output change between 1.40 percent and 3.70 percent
- 2 = Very low growth: output change between 0 percent and 1.40 percent
- 0 = Declining: output change less than or equal to 0 percent

Criterion 2 - Projected Growth Rates. Projected growth of an industry is also an important factor in this analysis since high-growth industries are most likely to have strong inclinations to move into a new area, or to provide new strong enterprises. This criterion measures projected growth rates in domestic output as the average annual, compounded percentage change at producers' value in 1972 dollars between 1982 and 1995 (26). The area's existing manufacturing industries are projected to exceed the national averages during the next 14 years by over 1 percent. This predicted growth rate is expected to be 3.5 percent compounded annually. The industries were weighted as follows:

- 10 = Very high growth: annual average projected growth rate equal to or greater than 5.0 percent
- 8 = High growth: annual average projected growth rate of 4.1 to 5.0 percent
- 6 = Moderate growth: annual average projected growth rate of 3.1 to 4.1 percent
- 4 = Low growth: annual average projected growth rate of 2.5 to 3.1 percent
- 2 = Very low growth: annual average projected growth rate of 0.9 to 2.5 percent
- 0 = Declining/low growth: annual average projected growth rate less or equal to 0.8 percent

Criterion 3 - Wage Levels. The inclusion of a wage criterion is important since higher paying employment opportunities will attract additional entrants into the

labor market and reduce potential population out-migration trends. As previously mentioned in this report, over 7,000 citizens leave the study area each day for work elsewhere (14). This criterion was defined as the 1983 production worker average weekly earning for an industry (27). The industries were weighted to provide a general, but not drastic, upgrading of wage rates by new industry in Burke, Columbia, and Richmond counties. Industries with wage structures excessively higher than existing manufacturing wage rates in the three-county area were considered less desirable. Wage structures compatible with local, existing wages were considered desirable. The average 1983 weekly wages in manufacturing industries for the United States, the Southeast, Georgia, and greater Augusta area are \$347, \$320, \$304, and \$303, respectively (27, 28, 29). The industries were weighted as follows:

- 4 = Very high wages: greater than or equal to \$450 per week
- 6 = High wages: from \$400 to \$450 per week
- 8 = Moderate wages: from \$300 to \$400 per week
- 6 = Low wages: from \$220 to \$300 per week
- 4 = Very low wages: under \$220 per week

Criterion 4 - Level of Labor Intensity. A desirable attribute for new enterprises in Burke, Columbia, and Richmond counties is that they be compatible with the levels of labor intensity of local industry. This criterion is measured by value added per employee and for two industries producing the same dollar output, the industry which uses more employees is considered less desirable, except those industries with greater than or equal to \$50,000 value added per employee. The average estimated capital intensiveness for all industries in the study area, Georgia, and the United States are \$37,649, \$32,435, and \$37,423 of value added per employee, respectively (18, 30). The industries were weighted as follows:

- 6 = Highly capital intensive: greater than or equal to \$50,000 value added per employee
- 8 = Moderately capital intensive: from \$40,000 to \$50,000 value added per employee
- 6 = Approximately even mix between labor and capital: from \$30,000 to \$40,000

- 4 = Moderately labor intensive: from \$24,000 to \$30,000 value added per employee
- 2 = Highly labor intensive: below \$24,000 value added per employee

Criterion 5 - Projected Job Growth Rates. Because of the effects of competition among industries and technological changes in manufacturing, the criterion of job growth rates within industries has become an important targeting factor. This criterion has been added to take into consideration the projected job growth rates of industries. Industries with greater projected job growth rates will be more desirable than industries with expected declines in employment. Positive growth in employment ensures a more stable local economy. The future for job growth for existing industry in the Burke, Columbia, and Richmond counties looks favorable, and in fact slightly exceeds the predicted natural trend. Area job growth in manufacturing is expected to be approximately 1.4 percent compounded annually, while the national projection is about 1.3 percent. This factor uses projected rates between 1982 and 1995 (26). These industries were weighted as follows:

- 8 = Very high growth: annual average percent job change with a 3.1 percent gain or better
- 6 = High growth: job changes between 2.1 percent and 3.0 percent
- 4 = Moderate growth: job changes between 1.1 percent and 2.0 percent
- 2 = Low growth: job changes between 0 percent and 1.0 percent
- 0 = Declining: job changes on negative side

Criterion 6 - Diversification. The industrial base of the greater Augusta area is considered more diversified than most communities in Georgia. This diversification of the economic base is highly desirable and has assured a more stable economy in the study area during the past recessionary years of the U.S. economy. Based on input from both developers and local leadership, a decision has been made that no major industry types be excluded in any local economic/industrial development marketing efforts. Although this criterion is rated "0" in the screening matrix, researchers have included this brief discussion for the



reader's information.

### Desirability Criteria Weighting

Each of the 451 industries was screened, applying the above criteria to identify those considered to be the most desirable for Burke, Columbia, and Richmond counties. The matrix process is simply a means to array those industries with the largest number of favorable characteristics as being desirable. In order to provide a measure of desirability and to provide a means for arraying the "most feasible" industries to reflect important development goals, different weights were assigned to each of the criteria. These are shown in Table 10.

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Table 10

#### Desirability Matrix Screening Criteria Weights

<u>Criterion</u>	<u>Weight</u>
Historical Growth Rates	15
Projected Growth Rates	25
Wage Levels	18
Level of Labor Intensity	20
Projected Job Growth Rates	22
Diversification of Industrial Base	0

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### Desirability Screening Results

Each of the industry groups evaluated was arranged in numerical sequence by four-digit SIC code. The total desirability scores were calculated by multiplying by the assigned weights the score obtained by an industry on each criteria and then summing the five values. Of the 451 industry groups so evaluated, those industries whose total score was highest could be considered the most desirable, since they most closely meet the characteristics previously set forth.

## INDUSTRIES WITH HIGH POTENTIAL FOR BURKE, COLUMBIA, AND RICHMOND COUNTIES

The total feasibility score and the total desirability score were combined for each four-digit industry by the industry selection model; consequently, the highest combined scores identify the most desirable and the most feasible industries for Burke, Columbia, and Richmond counties. The ranking of the combined scores by two-digit category provides a means for identifying, in general, industries with high potential for location within the county.

As a further refinement, those industrial groups with high potential were arrayed by four-digit groups and by the total score. Those with the highest potential (ranking above 25) are listed as first priority industries in Table 11. Those with highest potential (ranking between 26 and 50) are listed as second priority industries in Table 12. The listed ranking of individual industries in Tables 11 and 12 are not to be construed as having numerical priority or being more important than the other industries listed below them in the same table. Several of the four-digit industries' combined feasibility and desirability scores were the same values. In these cases, they were randomly listed together. Also, other considerations were used in the analysis and final listings which included using other detailed evaluating procedures and a knowledge of the industries and their limitations as recognized by this research organization.

The Department of Labor's Bureau of Labor Statistics recently published an all-inclusive listing of three-digit SIC manufacturing codes which are classified as high technology industries. The thirty-six SIC codes listed are as follows: 281, 282, 283, 284, 285, 286, 287, 289, 291, 301, 324, 348, 351, 352, 353, 354, 355, 356, 357, 358, 361, 362, 363, 364, 365, 366, 367, 369, 371, 372, 376, 381, 382, 383, 384, and 386 (31). It is interesting to note that 19 of the first priority and 20 of the second priority, targeted industries are classified as high technology industries.

Table 11

Final Ranking Feasibility & Desirability Screening  
(first priority)

<u>SIC</u>	<u>Industry</u>
3678	Electronic Connectors
3651	Radio & TV Receivers
3677	Electronic Coils & Transformers
3573	Electronic Computing Equipment
3079	Miscellaneous Plastics Products
2831	Biological Products
3679	Electronic Components
3498	Fabricated Pipe & Fittings
3842	Surgical Appliances
3811	Engineering/Scientific Equipment
3652	Phonograph Records
3585	Refrigeration & Heating Equipment
3841	Surgical & Medical Instruments
3676	Electronic Resistors
3792	Travel Trailers & Campers
2844	Toilet Preparations
3675	Electronic Capacitors
2451	Mobile Homes
3499	Fabricated Metal Products
3629	Electrical Industrial Apparatus
3832	Optical Instruments & Lenses
3531	Construction Machinery
3670	Electron Tubes
3494	Valves & Pipe Fittings
3561	Pumps & Related Equipment

Table 12

## Final Ranking Feasibility &amp; Desirability Screening

(second priority)

<u>SIC</u>	<u>Industry</u>
2842	Polishes & Sanitation Goods
2834	Pharmaceutical Preparations
3496	Miscellaneous Fabricated Wire Products
3586	Measuring/Dispensing Pumps
3843	Dental Equipment
3444	Sheet Metal Work
3576	Scales & Balances, Exc. Lab.
3589	Service Industry Machinery
2431	Millwork
3536	Hoists, Cranes & Monorails
3674	Semiconductor Devices
3537	Industrial Trucks/Tractors
3532	Mining Machinery
3574	Calc. & Accounting Machinery
3497	Metal Foil & Leaf
3699	Electrical Equipment/Supplies
3751	Motorcycles, Bicycles & Parts
3824	Fluid Meters & Counting Devices
3582	Commercial Laundry Equipment
3823	Process Control Instruments
2833	Medicinals & Botanicals
3565	Industrial Patterns
3646	Commercial Lighting Fixtures
3648	Lighting Equipment, Nec.
3715	Truck Trailers

For a brief description of each selected top thirty-five priority industries, refer to Appendix B. For more detailed description and listings of subgroup industries, one must refer to the Standard Industrial Classification Manual published by the United State Office of Management and Budget (19).

#### APPLICATION OF THE SCREENING RESULTS

A positive marketing strategy should be developed by the Economic/Industrial Development Committee of the Greater Augusta Chamber of Commerce or other development organization to attract new investments to the area. As an inherent part of that strategy, the identification and targeting of attractive and meaningful investment opportunities is an essential role of the local development organization.

Through application of the screening results, the Economic/Industrial Development Committee can continue to develop and carry out its marketing plan for attracting new industry to the community. Additional research had to be performed in order to apply input from the local manufacturers' survey and the selection screening results performed in previous sections of this report. An analysis of about six national information retrieval services was made to determine which service could identify and provide the most beneficial data on companies in selected SIC categories.

It was decided to use the Standard and Poor's Corporation's "Compmark" data service. This data service provides information on approximately 1,200 companies selected from the list of 25 "first priority" industries as found in Table 11. Detailed information on each company includes the address, telephone number, officers, sales/revenues, employment, product(s), and SICs. Companies were selected by primary SIC category and on the basis of annual sales volumes of at least \$5,000,000. The names of key individuals within companies were manually selected, depending on the size and type of firm. This comprehensive listing of companies can be optimally utilized in direct mailing campaigns and/or a personal contact or visitation program.



Information in a direct mailing should serve to introduce the community and the representative development organization, the Greater Augusta Chamber of Commerce, and to establish the reasons the contact is being made. Emphasis should be placed upon the obvious economic attractions that presently exist and which ought to serve as points of interest for investigation by the company being contacted. Even better and more to the point is the inclusion of information on specific community assets, such as labor availability, transportation factors, utility factors, favorable taxes, quality of life aspects, the existence of a usable building which has just come on the market, or the recent development of suitable industrial sites. The contact campaign should not be a "one shot" effort, but rather should have several phases with varying subject matter.

Any positive response from an initial mailing must be immediately followed with telephone and/or written communication intended to develop specific points of company interest. Numerous particulars on the candidate company's needs and requirements should be cataloged, following the list of subject items contained in Appendix C as a guide. This guide can be modified to meet the specific requirements of the Greater Augusta Chamber of Commerce.

If the industrial location project appears to be immediate or short-term, the telephone call should be carefully followed as soon as expeditious by a well-planned personal visit to the company headquarters or by an invitation to the prospect for a visit to the community. A personal, face-to-face conference with the company executive is highly desired, because such meetings often advance any stalled negotiations very quickly.

Caution should be exercised, however, that such visits are well planned, not casual and impromptu. Thus, sufficient support details on local resources, tailored to information gleaned from earlier contacts, should be prepared in a fashion specifically directed to the prospect.

At the permission of the sponsor, the listing of recommended companies to be used in a solicitation program

is being provided under separate cover. Responsibility for this list will remain with the Greater Augusta Chamber of Commerce, although technical assistance will be provided by the Industrial Extension Division staff upon request.

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Appendix A

TABLES 1, 2, 3, 4, 5, 6, 7, 8 & 9

FIGURES 1 & 2

DEVELOPERS QUESTIONNAIRE

COMMUNITY QUESTIONNAIRE

SURVEY OF MANUFACTURERS

Table 1

Input To Developers Questionnaire

	<u>Number</u>
Engineering Consultants/Developers	3
Financial Institutions/Developers	3
State Development Organizations	6
Railroads	3
Area Development Specialists	2
Corporate Utility Developers	<u>7</u>
Total	24

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Table 2

Input To Community Questionnaire

	<u>Number</u>
Existing Industry	13
Utility Companies	2
Financial Institutions	5
Health Facilities	1
Local Governments	4
Educational Institutions	2
State Government	1
Miscellaneous Commercial Organizations	2
Real Estate Firms	2
Engineering/Construction Firms	<u>4</u>
Total	36

Table 3

OVERALL RATING OF COMMUNITY  
PERCEPTIONS OF DEVELOPERS

	<u>Exc.</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	<u>Remarks</u>
Attitudes of existing businesses/industries	X				
Available buildings?			X		
Available sites?		X			Fair in Burke & Richmond
Education?	X	X	X		Excellent post secondary; Good primary/secondary - fair in Burke/Richmond
Government					
Attitude?		X			
Taxes?		X			
Financing?		X			
Labor					
Availability?		X			
Skilled/trainable?		X			
Non-union activity?		X			
Leadership?	X				
Location					
Markets?		X			
Raw materials?			X		Except: Kaolin & wood resources
Quality of life					
Housing?		X			
Medical services?	X				
Entertainment?			X		
Recreation?		X			
Crime prevention?			X		
Support services					
Public accommodations?		X			
Industrial?	X				
Commercial?		X			
Trucking?		X			
Transportation					
Highways?		X			
Rail?		X			
Air?		X			
Water?			X		
Utilities					
Energy					
Electric?		X			
Gas?		X			
Other?		X			Hydro electric potential
Water?		X			
Sewer?		X			Fair in Burke

Source: Developers Questionnaire and Survey.

Table 4

Community Weaknesses

1. Concern about quality of primary/secondary education
  - General concern that high school graduates are not adequately prepared for needs of businesses/industries
  - Perception of Burke and Richmond County schools
2. Absence of political stability (Augusta/Richmond County)
  - Poor cooperation between two governments
3. Lack of developed industrial park in Richmond County
4. Lack of available industrial buildings
5. Inadequate north-south highway (corridor to Savannah)
6. General shortage of skilled operators/tradesmen

Source: Community Questionnaire and Survey.

Table 5

Major Occupational Types

White Collar

Managerial and Professional Specialty

Executive, Administrative, Managerial  
Professional Specialty

Technical, Sales, Administrative Support

Technicians and Related Support  
Sales  
Administrative Support including Clerical

Blue Collar

Precision Production, Craft, and Repair Operators,  
Fabricators, and Laborers

Machine Operators, Assemblers, Inspectors  
Transportation and Material Moving  
Handlers, Equipment Cleaners, Helpers, Laborers

Service

Private Household  
Protective Service  
Service, Except Protective and Household

Farm

Farming, Forestry, and Fishing

Source: Bureau of the Census, 1980 Census of Population.



Table 6  
COMMUTING PATTERNS (OUTFLOW)

	Living In			
<u>Working In</u>	<u>Burke</u> <u>County</u>	<u>Columbia</u> <u>County</u>	<u>Richmond</u> <u>County</u>	<u>Total</u>
<u>Georgia:</u>				
Emanuel County	45	-	-	45
Jefferson County	135	-	33	168
Jenkins County	48	-	-	48
Lincoln County	-	25	-	25
McDuffie County	-	234	80	314
Screven County	103	-	-	103
Warren County	-	-	20	20
Wilkes County	<u>-</u>	<u>15</u>	<u>26</u>	<u>41</u>
Subtotal	331	274	159	764
<u>South Carolina:</u>				
Aiken County	66	909	3,270	4,245
Barnwell County	-	15	25	40
Richland County	-	13	112	125
Other Counties (3)	<u>-</u>	<u>48</u>	<u>25</u>	<u>73</u>
Subtotal	66	985	3,432	4,483
<u>Elsewhere</u>	52	359	1,718	2,129
TOTAL	<u>449</u>	<u>1,618</u>	<u>5,309</u>	<u>7,376</u>

Source: U.S. Bureau of the Census, 1980 Census of Population.

Table 7

COMMUTING PATTERNS (INFLOW)

	Working In			
<u>Living In</u>	<u>Burke</u> <u>County</u>	<u>Columbia</u> <u>County</u>	<u>Richmond</u> <u>County</u>	<u>Total</u>
<u>Georgia:</u>				
Bullock County	8	-	-	8
Emanuel County	158	-	33	191
Glascock County	-	3	54	57
Jefferson County	143	16	415	574
Jenkins County	159	-	15	174
Johnson County	5	-	17	22
Lincoln County	-	30	256	286
McDuffie County	36	198	997	1,231
Screven County	108	-	49	157
Taliaferro County	-	-	3	3
Warren County	-	4	164	168
Washington County	28	-	25	53
Wilkes County	<u>-</u>	<u>-</u>	<u>8</u>	<u>8</u>
Subtotal	645	251	2,036	2,932
<u>South Carolina:</u>				
Aiken County	60	288	8,105	8,453
Edgefield County	-	23	700	723
Other Counties (11)	<u>16</u>	<u>-</u>	<u>449</u>	<u>465</u>
Subtotal	76	311	9,254	9,641
TOTAL	<u><u>721</u></u>	<u><u>562</u></u>	<u><u>11,290</u></u>	<u><u>12,573</u></u>

Source: U.S. Bureau of the Census, 1980 Census of Population.

Table 8  
Municipal Water Systems

<u>County/City</u>	<u>Source</u>	<u>Capacity (MGD)</u>	<u>Demand (MGD)</u>	<u>Excess Capacity (MGD)</u>	<u>Population Equivalent</u>
Richmond County					
Augusta	SW	30.000	24.000	6.000	40,000
(Expansion underway)		45.000	24.000	21.000	140,000
Blythe	W	.216	.032	.184	1,227
County System	W	18.000	13.000	5.000	33,000
Hephzibah	W	.112	.196		
Columbia County					
County System	SW,W	8.000	3.600	4.400	29,333
Grovetown	W	1.000	.580	.420	2,800
Harlem	W	.641	.200	.441	2,940
Burke County					
Girard	W	.072	.022	.050	333
Midville	W	.258	.075	.183	1,220
Sardis	W	.150	.103	.053	353
Vidette	W	.072	.010	.062	413
Waynesboro (Expansion planned)	SW,W	3.000	.970	2.03	13,533

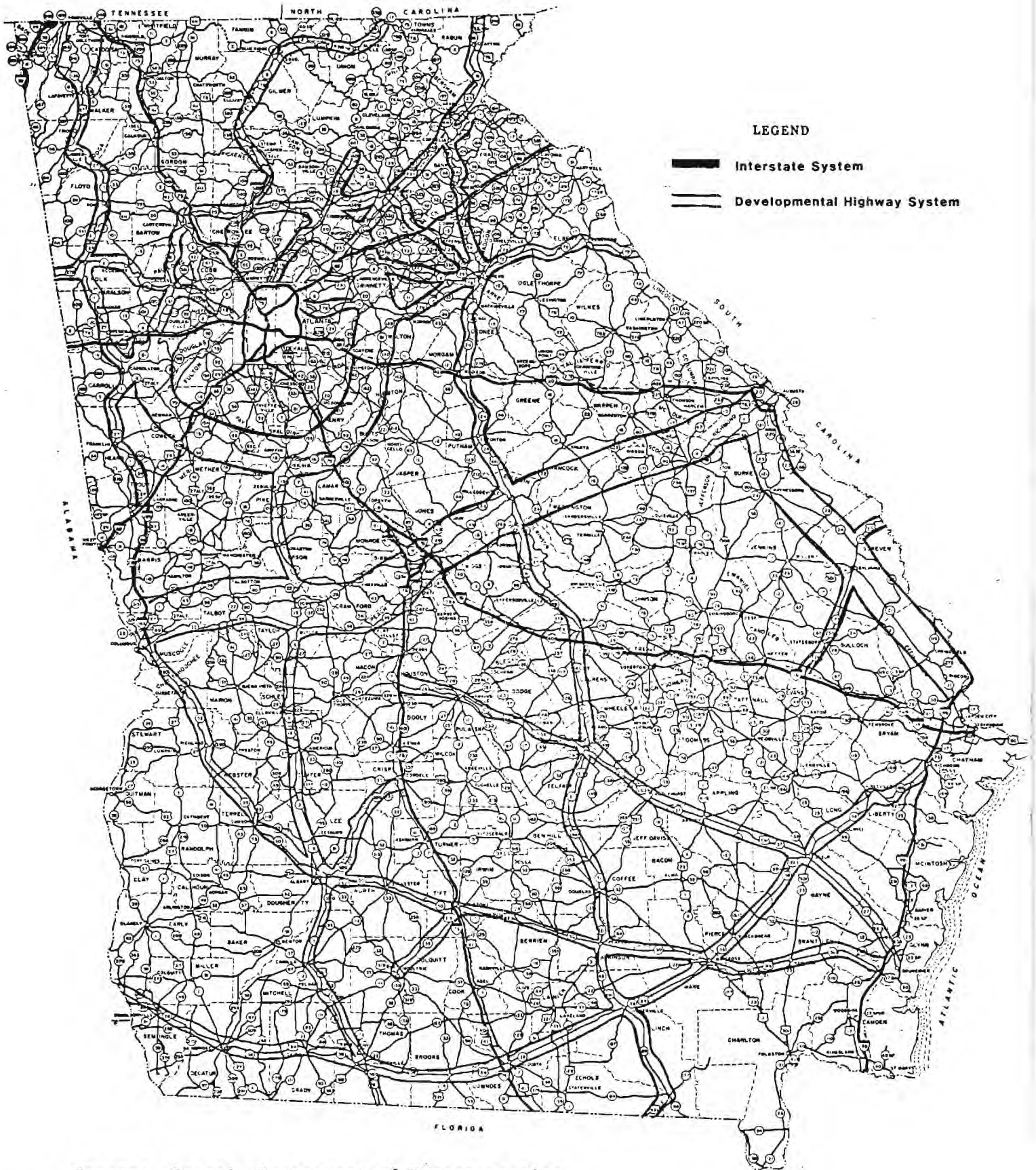
W = Well  
 SW = Surface Water  
 MGD = Million Gallons Per Day

Table 9

Municipal Wastewater Treatment Facilities

<u>County/City</u>	<u>Discharge Source</u>	<u>Capacity (MGD)</u>	<u>Demand (MGD)</u>	<u>Excess Capacity (MGD)</u>
Richmond County				
Augusta (Expansion underway) (Expansion planned - 1986)	Creek	22.50 (33.00) (46.00)	18.8 (18.8)	3.70 (14.20)
Hephzibah	Creek	0.08	0.06	0.02
Columbia County				
Crawford Creek (Expansion underway)	Creek	0.50 (1.00)	0.51 (0.51)	-0.01 (0.49)
Reed Creek (Expansion underway)	Creek	1.70 (2.55)	1.34 (1.34)	0.36 (1.21)
Harlem	Creek	0.25	0.15	0.10
Burke County				
Midville	River	0.06	N.A.	-
Sardis	Creek	0.10	0.07	0.03
Waynesboro (Expansion planned)	Creek	0.85	0.75	0.10

Figure 1

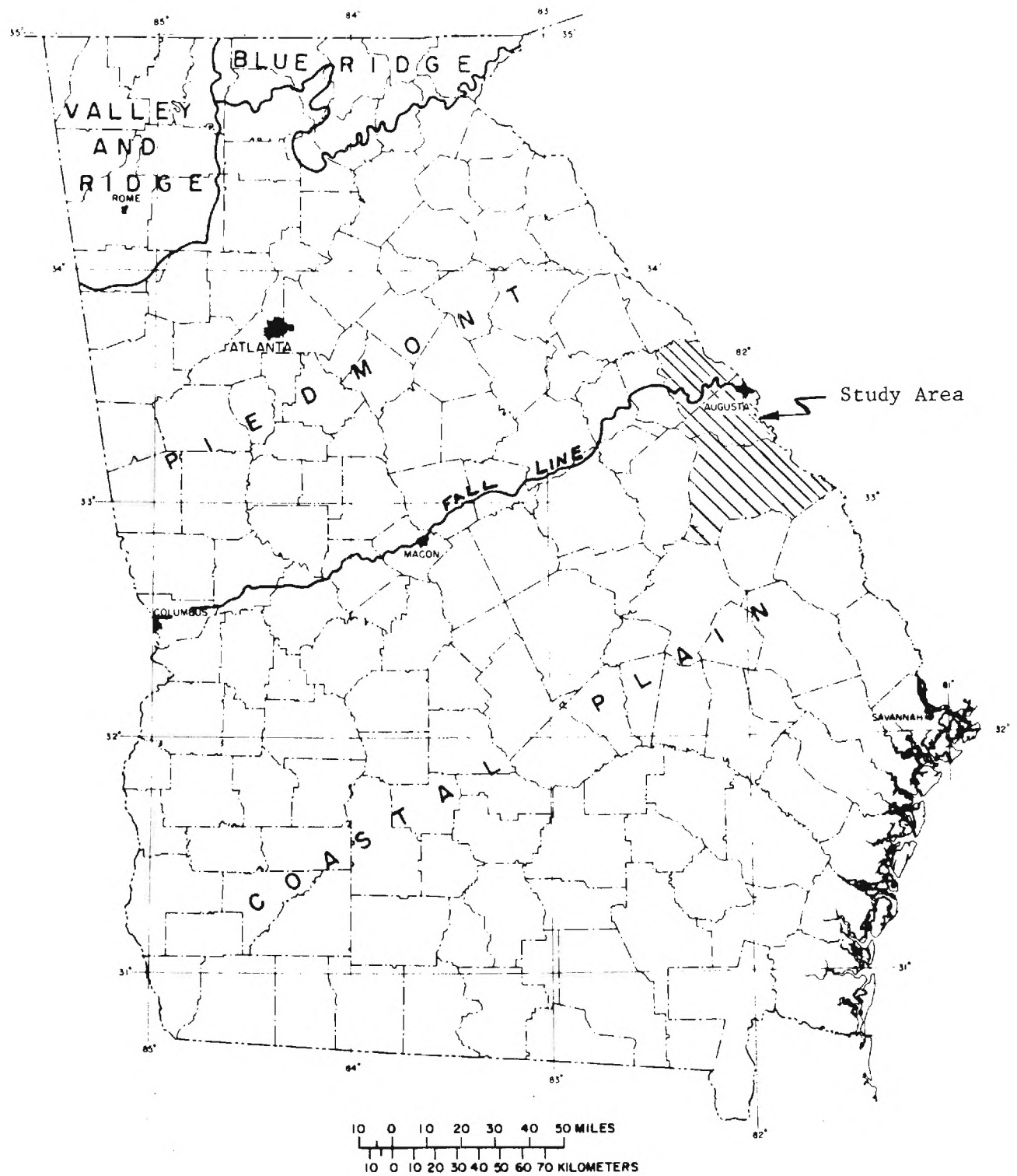


Source: Georgia Department of Transportation.



Figure 2

Physiographic Provinces In Georgia



CONFIDENTIAL

ECONOMIC DEVELOPMENT APPRAISAL  
OF  
AUGUSTA AREA

Date \_\_\_\_\_

Page 1

DEVELOPERS' QUESTIONNAIRE

Contact/Position \_\_\_\_\_

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Interviewer \_\_\_\_\_

1. Are you familiar with the economic/industrial development efforts in the Augusta Area? Yes \_\_\_\_, No \_\_\_\_

2. What are your experiences in working with the local developers in handling prospects? Please be specific as possible.

a. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. What other communities were in competition for the prospect and where did the prospect locate?

a. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. What, in your opinion, are the principal assets the Augusta area has to offer in attracting new industries to locate there?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. What, in your opinion, are the principal liabilities of this area in attracting new industries to locate there?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. In your opinion, what should the Augusta area try to do to strengthen its development efforts to attract new industry?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. How do you rate this area with other competing communities in:

	<u>Exc.</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	<u>Remarks</u>
a. Attitudes of existing businesses/industries? .....					
b. Available buildings? .....					
c. Available sites? .....					
d. Education? .....					
e. Government					
(1) Attitude? .....					
(2) Taxes? .....					
f. Financing? .....					
g. Labor					
(1) Availability? .....					
(2) Skilled/trainable? ...					
(3) Non-union activity? ..					
h. Leadership? .....					
i. Location					
(1) Markets? .....					
(2) Raw materials? .....					
j. Quality of life					
(1) Housing? .....					
(2) Medical services? ....					
(3) Entertainment? .....					
(4) Recreation? .....					
(5) Crime prevention? ....					
k. Support services					
(1) Public accommodations?					
(2) Industrial? .....					
(3) Commercial? .....					
(4) Trucking? .....					
l. Transportation					
(1) Highways? .....					
(2) Rail? .....					
(3) Air? .....					
(4) Water? .....					
m. Utilities					
(1) Energy					
(a) Electric? .....					
(b) Gas? .....					
(c) Other? .....					
(2) Water? .....					
(3) Sewer? .....					

8. In general, what type of industry do you feel can and should be added to the area and should they be rural or urban oriented?

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9. In your opinion, have the following had positive or negative affects on the area's economic/industrial development efforts?

a. Fort Gordon: \_\_\_\_\_ Explain \_\_\_\_\_

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b. Plant Vogtle: \_\_\_\_\_ Explain \_\_\_\_\_

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c. Savannah River \_\_\_\_\_ Explain \_\_\_\_\_

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d. South Carolina \_\_\_\_\_ Explain \_\_\_\_\_

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10. Do you have a current file on the communities which includes general economic information and available sites/buildings?

Burke County	Yes _____, No _____
Columbia County	Yes _____, No _____
Richmond County	Yes _____, No _____

11. Have you had regular visits or calls from developers in the area? Yes \_\_\_\_\_, No \_\_\_\_\_. When was the last time they were in contact with your organization?

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12. Remarks \_\_\_\_\_

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CONFIDENTIAL

ECONOMIC DEVELOPMENT APPRAISAL  
OF  
BURKE, COLUMBIA & RICHMOND COUNTIES

Date \_\_\_\_\_

Page 1

COMMUNITY QUESTIONNAIRE

Contact/Position \_\_\_\_\_

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Interviewer \_\_\_\_\_

1. What do you like most about this community as a location for your business?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. What do you dislike most about this community as a location for your business?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Has your company transferred any portion of its operation away from here during the last ten years or have you discontinued some former local operations?

Yes \_\_\_\_, No \_\_\_\_; if yes, explain \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

4. Has your company established new operations outside this community during the last ten years? Yes \_\_\_\_, No \_\_\_\_; if yes, explain \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_



5. From your own observation, how do your employees here compare with employees in other communities in:

	<u>Un- usually High</u>	<u>Higher Than Avg.</u>	<u>Avg.</u>	<u>Lower Than Avg.</u>	<u>Low</u>
a. Effort?	_____	_____	_____	_____	_____
b. Job abilities?	_____	_____	_____	_____	_____
c. Pride of workmanship?	_____	_____	_____	_____	_____
d. Attitude toward employers?	_____	_____	_____	_____	_____
e. Productivity?	_____	_____	_____	_____	_____
f. Absenteeism?	_____	_____	_____	_____	_____
g. Turnover?	_____	_____	_____	_____	_____

6. How do you rate the industrial growth of the community?  
Please check one

Rapid \_\_\_\_\_ Slow \_\_\_\_\_ Static \_\_\_\_\_ Declining \_\_\_\_\_

7. How do you rate the industrial diversification of the community?  
Please check one

Well Diversified \_\_\_\_\_ Moderate Diversification \_\_\_\_\_  
Dependent On One Or A Few Industries \_\_\_\_\_

8. How do you rate this community in:

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
a. Building sites				
(1) Availability?	_____	_____	_____	_____
(2) Cost?	_____	_____	_____	_____
b. Cost of construction?	_____	_____	_____	_____
c. Availability of prime contractors?	_____	_____	_____	_____
d. Building rentals				
(1) Availability?	_____	_____	_____	_____
(2) Cost?	_____	_____	_____	_____

9. Please rate the following on their general attitude toward business, as indicated by their actions:

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
a. City Administration?	_____	_____	_____	_____
b. County Administration?	_____	_____	_____	_____

If you have had any particularly significant experience, please outline:

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10. What are the major drawbacks to industrial expansion here? (Please list in order of importance.)

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

11. What are the major assets of the community for attracting new industry? (Please list in order of importance.)

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

12. Do you feel that the community should try to attract new industry?

Yes \_\_\_\_\_, No \_\_\_\_\_; if yes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

13. a. Are adequate efforts being made to attract new industry by:

- |                                |           |          |
|--------------------------------|-----------|----------|
| (1) The state?                 | Yes _____ | No _____ |
| (2) This area?                 | Yes _____ | No _____ |
| (3) The city?                  | Yes _____ | No _____ |
| (4) The county?                | Yes _____ | No _____ |
| (5) The business associations? | Yes _____ | No _____ |

b. Would special inducements to new industry cause hardship to present companies? Yes \_\_\_\_\_, No \_\_\_\_\_

If yes, what kind of inducements would cause hardship? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

14. In general, what type of industry do you feel can and should be added to this community?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

15. From the standpoint of your business needs, what governmental, municipal or other services or facilities are needed that this community now lacks?

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16. Are the availability and cost of the following utilities satisfactory to you:

a. Gas?	Yes _____	No _____
b. Other fuel?	Yes _____	No _____
c. Power?	Yes _____	No _____
d. Telephone?	Yes _____	No _____
e. Water and sewer?	Yes _____	No _____

If any utilities are unsatisfactory, why? \_\_\_\_\_

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17. Does the community have adequate hotels, restaurants, meetings and exhibit facilities for business purposes? Yes \_\_\_\_\_, No \_\_\_\_\_

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18. Are other business services adequate, such as machine shops, postal facilities, job printers, etc.? Yes \_\_\_\_\_, No \_\_\_\_\_

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19. From the standpoint of your business needs, what shortcomings, if any, exist in the transportation facilities and services of this community?

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20. Are the community's high school graduates adequately prepared for your needs? Yes \_\_\_\_\_, No \_\_\_\_\_

If not adequately prepared what is lacking:

a. Vocational skills?	Yes _____	No _____
b. Understanding of competitive system?	Yes _____	No _____
c. Sense of personal responsibility?	Yes _____	No _____

d. Other? (Please specify.) Yes \_\_\_\_\_ No \_\_\_\_\_

21. Are the facilities in the community adequate for training future employees:

a. Business schools? Yes \_\_\_\_\_ No \_\_\_\_\_

b. Trade schools? Yes \_\_\_\_\_ No \_\_\_\_\_

c. College courses? Yes \_\_\_\_\_ No \_\_\_\_\_

d. Other? (Please specify.) Yes \_\_\_\_\_ No \_\_\_\_\_

22. Do existing local taxes discourage many good potential employees who might otherwise locate here? Yes \_\_\_\_\_, No \_\_\_\_\_; if yes, which taxes? \_\_\_\_\_

23. Do you feel your tax assessments are fair:

a. Individual personal property? Yes \_\_\_\_\_ No \_\_\_\_\_

b. Individual real estate? Yes \_\_\_\_\_ No \_\_\_\_\_

c. Business personal property? Yes \_\_\_\_\_ No \_\_\_\_\_

d. Business real estate? Yes \_\_\_\_\_ No \_\_\_\_\_

If no, what remedy do you suggest? \_\_\_\_\_

24. Would you support a local referendum for a Freeport tax exemption involving certain types of inventory? (Burke County only). Yes \_\_\_\_\_, No \_\_\_\_\_

25. In terms of what your company gets for its tax dollar, how do you rate local taxes? (Please check one.)

Very High \_\_\_\_\_ High \_\_\_\_\_ Average \_\_\_\_\_ Low \_\_\_\_\_

26. If you should have need to increase your employment, do you believe available housing will meet your needs? Yes \_\_\_\_\_, No \_\_\_\_\_; if no, what kind of housing will be mostly needed? \_\_\_\_\_

27. How do you rate this community in:

	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
a. General living conditions	_____	_____	_____	_____
b. Over-all appearance?	_____	_____	_____	_____
c. Entertainment?	_____	_____	_____	_____
d. Recreation?	_____	_____	_____	_____
e. Police protection?	_____	_____	_____	_____
f. Fire protection?	_____	_____	_____	_____

28. How do you rate the downtown area in:

a. Cleanliness?	_____	_____	_____	_____
b. Attractiveness of stores?	_____	_____	_____	_____
c. Parking facilities?	_____	_____	_____	_____
d. Traffic control?	_____	_____	_____	_____
e. Adequacy of office space?	_____	_____	_____	_____
f. Merchandise stocks?	_____	_____	_____	_____

29. Have you had any difficulty recruiting or holding high quality employees because of their not wishing to live or work in this community?

Yes \_\_\_\_\_, No \_\_\_\_\_; if yes, what specifically did they object to? \_\_\_\_\_

30. Do your employees find that this community has an adequate number of:

a. Doctors?	Yes _____	No _____
b. Dentists?	Yes _____	No _____
c. Registered nurses?	Yes _____	No _____
d. Hospital beds?	Yes _____	No _____

31. Does the location of any of your competitors give them an advantage over your company in these respects:

a. Labor costs?	Yes _____	No _____
b. Labor skills?	Yes _____	No _____
c. Raw materials?	Yes _____	No _____
d. Distribution costs?	Yes _____	No _____

Explain \_\_\_\_\_

32. Does the community offer adequate sources for the principal supplies your company needs? Yes \_\_\_\_\_, No \_\_\_\_\_; if no, what supplies must you obtain elsewhere? \_\_\_\_\_

33. Have you had to go beyond this area to obtain financing? Yes \_\_\_\_, No \_\_\_\_;  
if yes: \_\_\_\_\_
34. What specific things can be done by each organization to be of more service to  
you and to improve your prospects for future expansion here:
- a. By the city government? \_\_\_\_\_
- b. By the county government? \_\_\_\_\_
- c. Chamber of Commerce? \_\_\_\_\_
- d. Other? \_\_\_\_\_
35. Do your long-range plans call for expansion in the next five years?  
Yes \_\_\_\_, No \_\_\_\_; if yes: \_\_\_\_\_
36. If you wished to expand here, is there sufficient suitable land in this  
community for the expansion? Yes \_\_\_\_, No \_\_\_\_
37. If you wished to expand here, are there sufficient available buildings in this  
community for the expansion? Yes \_\_\_\_, No \_\_\_\_
38. Would you expand here? Yes \_\_\_\_, No \_\_\_\_  
Why? \_\_\_\_\_
39. Would you recommend the community to another company for their expansion plans  
and how would this new industry affect your operations? Yes \_\_\_\_, No \_\_\_\_;  
explain \_\_\_\_\_



40. In your opinion, has the community's closeness to South Carolina had a positive or negative affect on this community? \_\_\_\_\_

Explain \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

41. What is the single most important project that could be undertaken to make the community a better place to operate your business? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

42. Remarks \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

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\_\_\_\_\_

CONFIDENTIAL

SURVEY OF MANUFACTURERS

(Addendum To Community Questionnaire)

Date \_\_\_\_\_

Company Name \_\_\_\_\_

- 
- 
1. What is your plantwide, average hourly wage for all hourly workers? (No overtime) \_\_\_\_\_
  2. What is your starting wage for hourly workers? \_\_\_\_\_
  3. What percentage of your payroll goes to fringe benefits? \_\_\_\_\_
  4. Considering peak capability as 100%, at what percentage level do you feel your production workers are performing? Check below:

50% \_\_\_\_\_ 60% \_\_\_\_\_ 70% \_\_\_\_\_ 80% \_\_\_\_\_ 90% \_\_\_\_\_ 100% \_\_\_\_\_

5. What effect, if any, will future technological changes within your company have on its employment?

<u>Type</u>	<u>Increase</u>	<u>Decrease</u>	<u>Unchanged</u>
<u>Hourly employees</u>			
Unskilled	_____	_____	_____
Semi-skilled	_____	_____	_____
Skilled	_____	_____	_____
<u>Salaried employees</u>			
Non-professional	_____	_____	_____
Professional	_____	_____	_____
Overall	_____	_____	_____

6. Do you believe that your labor drawing area will be able to furnish your company with its future labor needs?

	<u>Yes</u>	<u>No</u>
Unskilled	_____	_____
Semi-skilled	_____	_____
Skilled	_____	_____

7. In your estimation, what percent of your labor force commutes from South Carolina? \_\_\_\_\_%.

## 8. Major raw materials used in the manufacturing process:

<u>Raw Materials Purchased</u>	<u>Location From Which Purchased</u>	<u>Approx. Annual \$ Vol.</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Of the raw materials purchased outside the area, which would you purchase locally if made available at a competitive price?

\_\_\_\_\_

\_\_\_\_\_

## 9. Other materials, goods, or services used in the manufacturing process:

<u>Materials, Goods, or Services Purchased</u>	<u>Location From Which Purchased</u>	<u>Approx. Annual \$ Vol.</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Of the above materials, goods, or services purchased from outside the area, which would you purchase locally if made available at a competitive price?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 10. What is the market area served by your present operation?

<u>Geographical Area</u>	<u>Percentages</u>
Local	_____
County	_____
State	_____
National	_____
International	_____
TOTAL	<u>100%</u>

## 11. Please list your major customers and their locations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. List your major competitive firms;

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13. If you were going to expand or diversify your product line, what would these products be?

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14. What are the major reasons keeping you from manufacturing these additional products?

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15. Size of present location:

Number of acres \_\_\_\_\_

Number of square feet in plant \_\_\_\_\_

16. Do you believe the Savannah River is an asset to the community and/or your business?

Yes \_\_\_\_\_ No \_\_\_\_\_ Explain \_\_\_\_\_

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17. Remarks \_\_\_\_\_

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Prepared by: NW Georgia Area Office, IED/EDL/EES, Georgia Tech, 1984.

Appendix B

STANDARD INDUSTRIAL CLASSIFICATION AND  
DESCRIPTION FOR SELECTED INDUSTRY GROUPS

INDUSTRIAL DESCRIPTIONS  
FOR  
FIRST PRIORITY INDUSTRIES

SIC

2451      Mobile Homes

Establishments primarily engaged in manufacturing mobile homes. These mobile homes are generally over 35 feet long, at least 8 feet wide, do not have facilities for storage of water or waste, and are equipped with wheels. These products may also have nonresidential uses, such as classrooms or offices.

2831      Biological Products

Establishments primarily engaged in the production of bacterial and virus vaccine, toxoids and analogous products (such as allergenic extracts), serums, plasmas, and other blood derivatives for human or veterinary use.

2834      Pharmaceutical Preparations

Establishments primarily engaged in manufacturing, fabricating, or processing drugs in pharmaceutical preparations for human or veterinary use. The greater part of the products of these establishments are finished in the form intended for final consumption, such as ampuls, tablets, capsules, vials, ointments, medicinal powders, solutions, and suspensions. Products of the industry consist of two important lines, namely: (1) pharmaceutical preparations promoted primarily to the dental, medical, or veterinary professions; and (2) pharmaceutical preparations promoted primarily to the public.

2842      Specialty Cleaning, Polishing, and Sanitation Preparations

Establishments primarily engaged in manufacturing furniture, metal, and other polishes; waxes and dressings for fabricated leather and other materials; household, institutional and industrial plant disinfectants; dry cleaning preparations; household bleaches; and other sanitation preparations.



2844      Perfumes, Cosmetics, and Other Toilet Preparations

Establishments primarily engaged in manufacturing perfumes (natural and synthetic), cosmetics, and other toilet preparations. This industry also includes establishments primarily engaged in blending and compounding perfume bases; and those manufacturing shampoos and shaving products, whether from soap or synthetic detergents.

3079      Miscellaneous Plastics Products

Establishments primarily engaged in molding primary plastics for the trade, and fabricating miscellaneous finished plastics products. Establishments primarily engaged in manufacturing fabricated plastics products or plastics film, sheet, rod, nontextile monofilaments and regenerated cellulose products, and vulcanized fiber are classified in this industry, whether from purchased resins or from resins produced in the same plant. Establishments primarily engaged in compounding purchased resins are also classified in this industry.

3494      Valves and Pipe Fittings, Except Plumbers' Brass Goods

Establishments primarily engaged in manufacturing pipe fittings and valves for controlling the flow of liquids or gases in pipes and mains, and for machinery.

3496      Miscellaneous Fabricated Wire Products

Establishments primarily engaged in manufacturing miscellaneous fabricated wire products from purchased wire, such as noninsulated wire rope and cable; fencing; screening, netting, paper machine wire cloth; hangers, paper clips, kitchenware, and wire carts.

3498      Fabricated Pipe and Fabricated Pipe Fittings

Establishments primarily engaged in fabricating pipe and pipe fittings from purchased pipe, by cutting, threading, bending, etc.

3499      Fabricated Metal Products, NEC

Establishments primarily engaged in manufacturing fabricated metal products, not elsewhere classified, such as fire or burglary resistive steel safes and vaults and similar fire or

burglary resistive products; and collapsible tubes of this flexible metal. Also included are establishments primarily engaged in manufacturing metal boxes, metal ladders, and metal household articles, such as ice cream freezers and ironing boards.

3531 Construction Machinery and Equipment

Establishments primarily engaged in manufacturing heavy machinery and equipment used by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plant type; dredging machinery; pavers; and power shovels.

3561 Pumps and Pumping Equipment

Establishments primarily engaged in manufacturing pumps and pumping equipment for general industrial use.

3573 Electronic Computing Equipment

Establishments primarily engaged in manufacturing electronic computers and peripheral equipment and/or major logical components intended for use in electronic computer systems. Included are general-purpose electronic analog computers, electronic digital computers, military, ruggedized, and special purpose computers. The electronic computers may be used for data processing or may be incorporated as components of control equipment for industrial use, and as components of equipment used in weapons and weapons systems, space and oceanographic exploration, transportation and other systems. Electronic computer systems contain high speed arithmetic and program control units, on-line information storage devices, input/output equipment terminals, data, communication devices, and punched card equipment. Examples of input/output equipment are converters (card and/or tape), readers and printers. Examples of storage devices are magnetic drums and disks, magnetic cores and magnetic film memories. In addition to providing technical manuals necessary for the operation and maintenance of the equipment, establishments in this industry usually furnish general-purpose computer programs and basic operating systems programs needed for effective use of the computer system. Establishments primarily producing rebuilt electronic computers are also included in this industry.

3585 Air Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment

Establishments primarily engaged in manufacturing refrigeration equipment and systems and similar equipment for commercial and industrial use; complete air conditioning units for domestic, commercial, and industrial use; and warm air furnaces, except electric. Establishments primarily engaged in manufacturing soda fountains and beer dispensing equipment and humidifiers and dehumidifiers, except for rooms, are also classified in this industry.

3586 Measuring and Dispensing Pumps

Establishments primarily engaged in manufacturing measuring and dispensing pumps commonly used in service and filling stations for dispensing gasoline, oil, and grease, including grease guns.

3629 Electrical Industrial Apparatus, NEC

Establishments primarily engaged in manufacturing industrial and commercial electric apparatus and equipment, not elsewhere classified, such as blasting machines, and fixed and variable capacitors, condensers, and rectifiers for industrial applications.

3651 Radio and Television Receiving Sets, Except Communication Types

Establishments primarily engaged in manufacturing electronic equipment for home entertainment, including auto radios and tape players. This industry also includes establishments primarily engaged in manufacturing public address systems and music distribution apparatus.

3652 Phonograph Records and Pre-recorded Magnetic Tape

Establishments primarily engaged in manufacturing phonograph records and prerecorded magnetic tape.

3670 Electron Tubes

3671 - Establishments primarily engaged in manufacturing radio and television receiving type electron tubes, except cathode ray tubes.

3672 - Establishments primarily engaged in manufacturing television receiving type cathode ray tubes.

3673 - Establishments primarily engaged in manufacturing transmitting, industrial, and special purpose electron tubes.

3675 Electronic Capacitors

Establishments primarily engaged in manufacturing electronic capacitors.

3676 Resistors, for Electronic Applications

Establishments primarily engaged in manufacturing resistors for electronic end products.

3677 Electronic Coils, Transformers and Other Inductors

Establishments primarily engaged in manufacturing electronic coils, transformers, and inductors.

3678 Connectors, for Electronic Applications

Establishments primarily engaged in manufacturing electronic connectors.

3679 Electronic Components, NEC

Establishments primarily engaged in manufacturing electronic components, not elsewhere classified, such as receiving antennas, printed circuits, switches, and waveguides.

3792 Travel Trailers and Campers

Establishments primarily engaged in manufacturing travel trailers for attachment to passenger cars or other vehicles, pickup coaches (campers) or caps (covers) for mounting on pickup trucks and self-contained motor homes. Travel trailers are generally 35 feet long or less, 8 feet wide or less, and have storage facilities for water and waste.

3811 Engineering, Laboratory, Scientific, and Research Instruments and Associated Equipment

Establishments primarily engaged in manufacturing engineering, laboratory, and scientific instruments, including nautical, navigational, aeronautical, surveying, and drafting equipment and instruments for laboratory work and scientific research (except optical instruments).

3832      Optical Instruments and Lenses

Establishments primarily engaged in manufacturing instruments that measure an optical property; apparatus except photographic that projects or magnifies such as binoculars, prisms, and lenses; optical sighting and fire control equipment, and related analytical instruments.

3841      Surgical and Medical Instruments and Apparatus

Establishments primarily engaged in manufacturing medical, surgical, ophthalmic, and veterinary instruments and apparatus.

3842      Orthopedic, Prosthetic, and Surgical Appliances and Supplies

Establishments primarily engaged in manufacturing orthopedic, prosthetic, and surgical appliances and supplies, arch supports, and other foot appliances; fracture appliances, elastic hosiery, abdominal supporters, braces, and trusses; bandages; surgical gauze and dressings; sutures; adhesive tapes and medicated plasters; and personal safety appliances and equipment.

3843      Dental Equipment and Supplies

Establishments primarily engaged in manufacturing artificial teeth, dental metals, alloys and amalgams, and a wide variety of equipment, instruments, and supplies used by dentists, dental laboratories, and dental colleges.

Appendix C

GUIDE FOR CATALOGING NEEDS  
AND REQUIREMENTS OF INDUSTRIAL PROSPECTS



GUIDE FOR CATALOGING NEEDS  
AND REQUIREMENTS OF INDUSTRIAL PROSPECTS

1. Nature of the business.
2. Facility will be: branch plant, main, assembly, distribution, etc.
3. General location desired: size of city, inside or out of city limits.
4. Employment requirements: total, skills.
5. Space requirements: construction, special features.
6. Preference for: lease, purchase of existing building, construct new facility.
7. Site: acreage, special requirements.
8. Transportation facilities: air, motor, rail, water.
9. Utilities: electric power, fuel, gas, water, sewer.
10. Major raw materials.
11. Markets: local, regional, specialized.
12. Principal factors in making location decision.
13. Who should be furnished additional information?
14. Other: financial responsibility; other contacts made.

In addition to these basic facts, obtained from the inquiring industrial prospect, further details may be developed about some of the subject areas. A suggested list of items about which the community development contacts should be informed includes:

Market Situation

Is the market for the product growing?

Are time and distance of delivery to the market important?

Are transportation costs of the finished product a significant segment of total cost?

Is price or quality of the product an important consideration?

Is the product used by other industries or by the general consumer?

Are marketing channels complex?

Are sales seasonal or year-round?

Are special warehousing or distribution facilities required?

#### Labor Supply

Will the employment pattern be seasonal?

What specific skills are considered essential?

How much local labor will be recruited?

Can employee training need be met locally?

#### Raw Materials

Are the raw materials of such nature that the processor must be located nearby (bulk, perishable, fragile, and the like)?

Can alternative sources be developed easily?

#### Transportation

Is rapid or low-cost movement required for raw products?

Is rapid or low-cost movement required for finished products?

Is a combination of transportation modes preferable?

Are special transportation facilities required?

#### Energy

What is the preferred type of fuel?

Is heat an essential production process?

Are significant quantities of electric power or natural gas required?

Can the production process accommodate interruptible service?

### Water and Sewer

Is the cost of water a significant factor?

Are special water characteristics required?

Any special sewer treatment requirements necessary?

What can be done in the plant for pretreatment purposes?

### Taxes

Will local tax/assessment policies affect the location?

Is the capital investment substantial enough to make local tax rates of consequence?

Will inventory be carried in large quantities?

### General Living Conditions

Does the level of amenities have any influence in location selections?

Are there special cultural requirements for management and supervisory levels?

Will the work force created by the plant affect available housing facilities?

### Climate

Do the production processes require special weather conditions?

Will local climate conditions impact transportation, raw material collection, or market penetration?

### Legal Restrictions

Is the industry controlled or affected by special laws or administrative regulations?